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LANDSCAPE MANAGEMENT

INCORPORATING LAWN CARE INDUSTRY

LOCAL LAWS

WHAT TO DO, WHAT TO SAY

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Dr. Jeff Lefton: the drought, an opportunity

Ornamental grasses: go for the bold!

The Penn Pals: Right on Course

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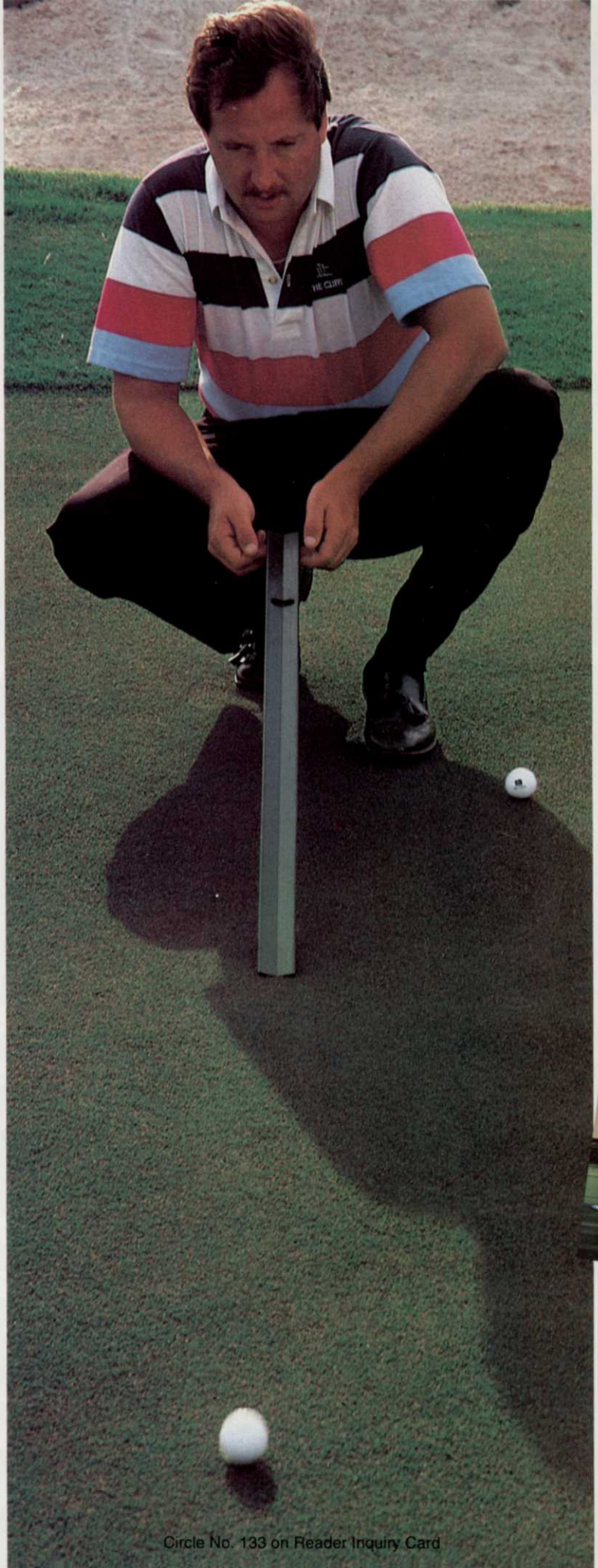

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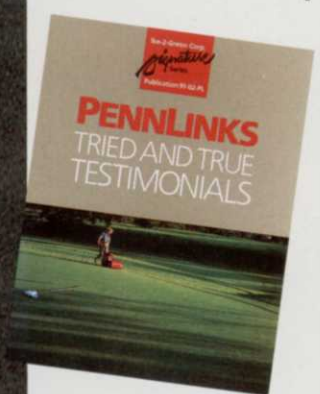

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Circle No. 133 on Reader Inquiry Card

AS WE SEE IT

JERRY ROCHE, EDITOR-IN-CHIEF

Great way to spend a week

How about these for timely topics:

- "Pricing Your Work to Make Money"
- "How to Survive in a Recession"
- "Award-Winning IPM"
- "Composting Yard Waste"
- "Maintaining Turf in a Drought"

They are but five topics that will receive full treatment at the annual Green Industry Expo in Tampa later this month.

I would really like to say to all our readers this month, "See you in Tampa." But the sorry fact of the matter is that I *won't* see you all in Tampa. I *will* see somewhat more than 2,000 and somewhat less than 3,000 of you, if past Green Industry Expos are accurate benchmarks.

At least 30,000 readers of this magazine would find the Expo a wonderful educational tool (that doesn't include 12,000 golf course superintendents, who have their own show). So it's a darned shame that only one out of 10 show up at the annual event. And—mostly—it's the same 3,000 people, year in and year out.

What I'm here to tell you this month is that there is no work-related excuse for not attending the Expo. None. Zip. Nada.

If you want your business to grow, or your organization to run more efficiently, there is no time or money better spent than that used to visit Tampa Nov. 17-21.

Theme of the lawn care portion of the program is "Meet the Challenge." It could well be the same theme for the landscaping/grounds portion of the program.

Included in the week's agenda are tours, business meetings and the ever-popular social hours.

One of the major misconceptions, however, about attending conventions is that you have to be a partier, have to be Mr. or Ms. Personality, have to schedule 20-hour days, to get the most of your experience. But it ain't necessarily so. Just by being in that fact- and fun-filled environment for four days, you're going to be richer for the experience. And more knowledgeable. You can't help but go home with new, interesting ideas—even if you don't speak to another soul.

Many of the landscape managers I know attend the event just to absorb, like sponges.

And the educational sessions and social functions are just a part of the week's agenda. Though speakers and friends will doubtless bombard you with usable information, you'll still have plenty of time to visit the trade show floor where the newest products are displayed like candy in a candy store.

The grand finale, as it has been in previous years, is the equipment demonstration Thursday morning. Take an hour or so before heading home to try out all the new equipment you saw on the trade show floor. See what you're missing.

Okay, you've not made plans to attend the Expo yet. But there's still time.

Now, if you're not considering attending, you're probably doing yourself and your organization a big injustice. But don't just take my word for it. Consider those 3,000 fellow landscape managers who come back year after year.

So pack the spouse and kids in the family wagon or camper, gas up and head south.

See you in Tampa.

Jerry Roche

Have a comment to share with the LANDSCAPE MANAGEMENT editors? Call us at (216) 243-8100 or write to us at 7500 Old Oak Blvd., Cleveland, OH 44130.

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LANDSCAPE MANAGEMENT
INCORPORATING LAWN CARE INDUSTRY
NOVEMBER 1991 VOL. 30, NO. 11

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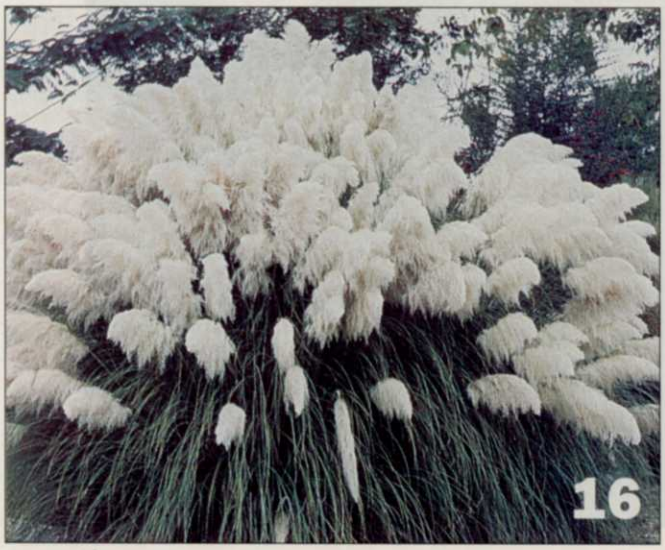

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VBPA ABP

ASK THE EXPERT

DR. BALAKRISHNA RAO

Warm-season fertilization

Problem: Would you please provide some information concerning the fertility requirement (amount of nitrogen) of common turfgrass in Texas? We are familiar with the turfgrass in the North, but know very little about the southern turfgrasses. *(Texas)*

Solution: The fertilization recommendations should be based on soil test results, turfgrass species, environmental conditions and other cultural practices such as mowing. Some soils may contain adequate amounts of phosphorus and/or potassium to maintain turfgrass. However, if they are determined to be deficient through soil testing, then the addition of these elements would help improve turfgrass. According to a report from Texas A&M University, the fertility of different turfgrass would vary depending on the species as follows:

RECOMMENDED N FERTILITY RATES

Total Nitrogen Required (lbs/1,000 sq. ft/yr)	Grass Variety
5 - 7	hybrid bermudagrass (Tifway, Tifgreen, Tifdwarf)
4 - 6	common bermudagrass, perennial ryegrass
3 - 5	zoysiagrass
2 - 5	St. Augustinegrass, tall fescue
1 - 2	centipedegrass
1	buffalograss, carpetgrass

Source: The authors

Also, certain environmental factors such as shade, soil type, rainfall, mowing and clipping recycling can influence the amount of fertilizer needed by different species. Study the cultural and environmental factors on site which would further influence the fertility requirement.

Planting bed techniques

Problem: When installing a planting bed where the road is part of the edge of the planting bed, how can mulch be contained? This area is usually too hard for edging, timbers are even digging a furrow, and sometimes extends several feet into the lawn, or planting, area. Without any border, mulch washout is a potential problem, resulting in a sloppy unprofessional job and a maintenance problem for the homeowner. I've considered moving the planting bed back to good soil and planting stone between the planting bed and road, or installing a raised bed and bordering with stone or brick. Each solution presents other challenges, "cost" being first. *(Virginia)*

Solution: The problem of maintaining a planting bed in between a road and lawn is difficult but not impossible. As you mentioned, moving the planting bed back to good soil and placing stone between the bed and road, or installing a raised bed and bordering with stone or brick would be an excellent solution. As you are aware, this would be a costly affair. Without these changes, the problems you have to address are: mulch being washed off, possible vehicle trafficking and subsequent compaction and disturbing the landscaping areas; and possible deicing salt contamination.

For possible erosion and/or mulch being washed off, consider digging a bed edging trench next to the road:

Also use railway ties, treated lumber or landscape edging around the border of planting area facing the road. Because of possible contact by vehicles, metal edging would be more desirable than plastic. Depending upon the landscape and planting beds, some of groundcovers such as ivy, pachysandra or vinca, or euonymus can also be used along the border of planting, closer to the road area. If maintained properly, these border plantings should protect the mulch and also can enhance the landscape beauty.

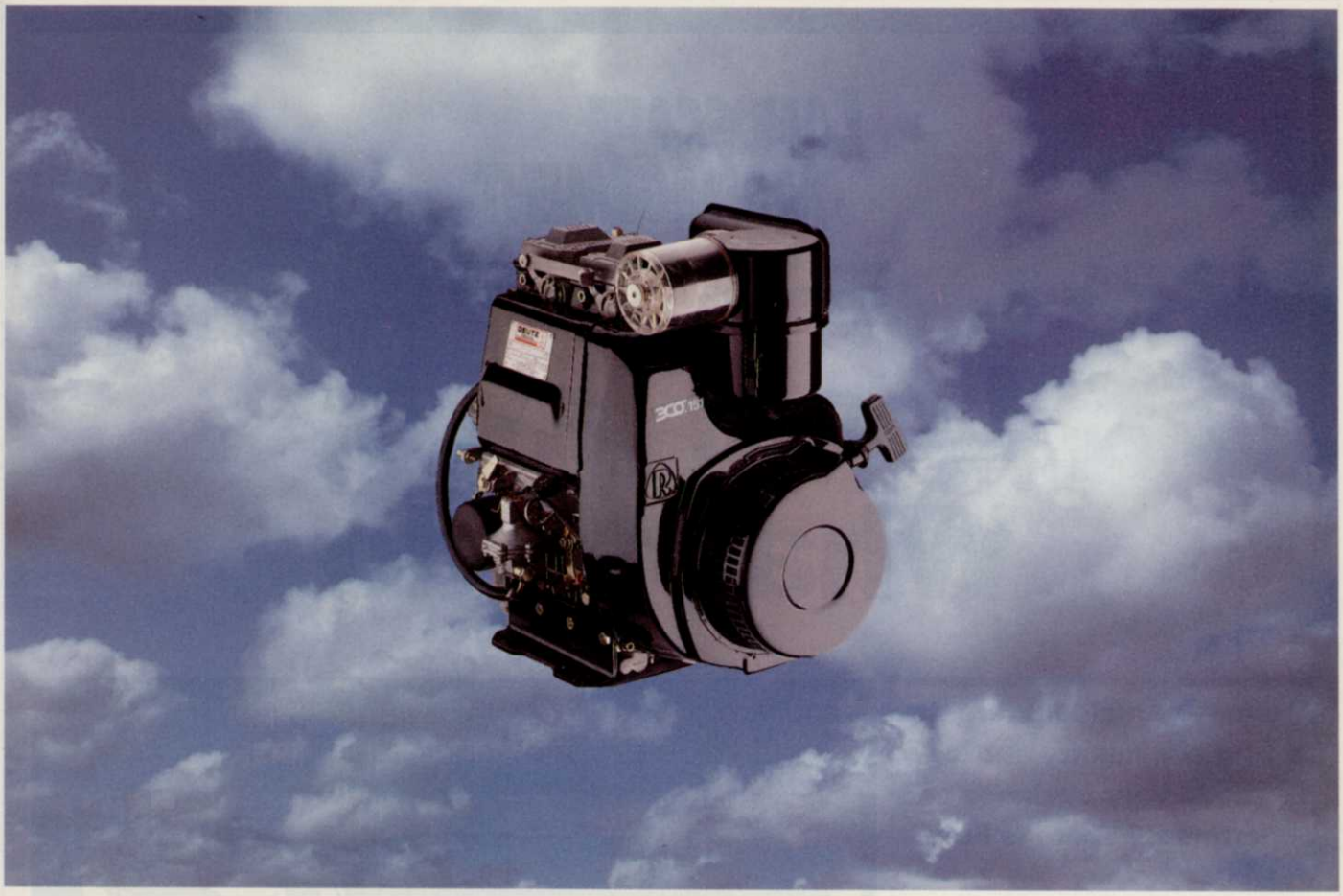
To minimize or prevent vehicle trafficking and compaction of the planting borders, consider using some sort of wood or metal posts (at three- to four-foot intervals or whatever the lawn will dictate) around the planting area. If this is done properly, it should not affect the aesthetic value of the landscape.

To deal with the possibility of a de-icing salt problem, consider installing some sort of solid fence or burlap-type of barrier to protect the planting area. Also, deep watering in early spring to leach the excess salt from the rootzone will help minimize salt injury.

Since these plantings will be continually exposed to various climatic and mechanical stresses, provide proper watering, fertilizing, mulching and pest management as needed to improve plant health.

Balakrishna Rao is Manager of Technical Resources for the Davey Tree Co., Kent, Ohio.

Questions should be mailed to ASK THE EXPERT, LANDSCAPE MANAGEMENT, 7500 Old Oak Boulevard, Cleveland, OH 44130. Please allow 2 to 3 months for an answer to appear in the magazine.



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LANDSCAPE MANAGEMENT

COVER STORY / LEGISLATION

Local laws: What to do

Are anti-pesticide interests in your community out to sabotage your business or department? There is help available.

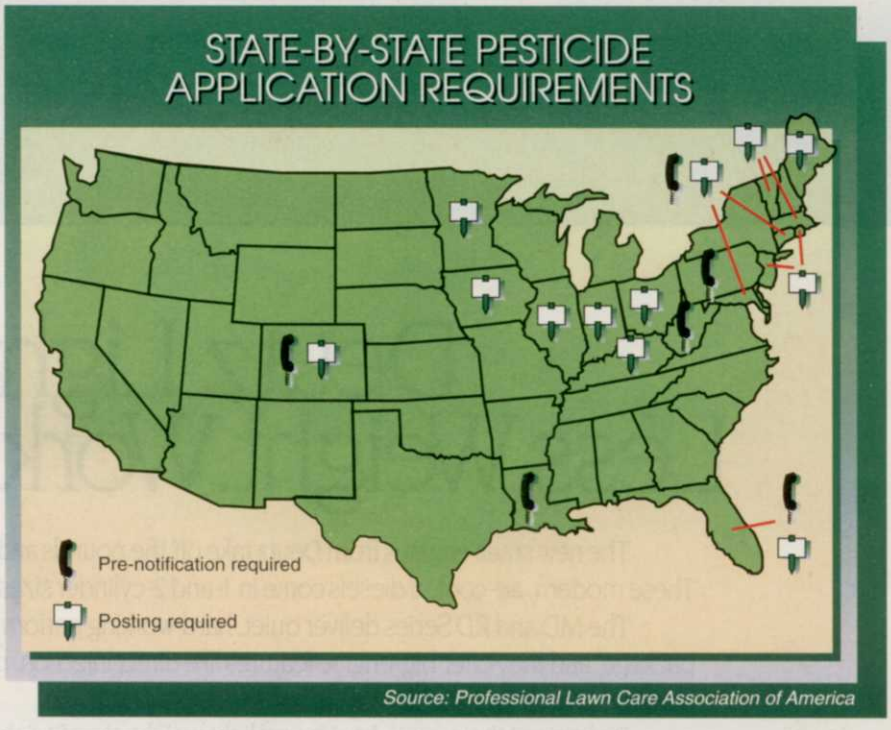
■ With this summer's *Mortier vs. Wisconsin* Supreme Court decision, pesticide applicators should be wary of possible local outcries against pesticide use in their communities.

As this issue of LANDSCAPE MANAGEMENT went to press, a groundswell of local regulations were being passed and/or contemplated across the country. (For more details, see "Lawn Care Industry" section.) Most of the legislation deals with the lawn care segment of the green industry; but, more and more, communities are looking at *all* pesticide applications—including those done by golf course and park superintendents and by homeowners.

If legislation is rearing its ugly head in your community, however, you can get immediate help: the cavalry is just a phone call away.

More than 130 professional organizations calling themselves the "Coalition for Sensible Pesticide Policy" (CSPP) are making themselves available to the green industry and the agricultural community as a defense against irresponsible legislation.

Purpose of the group is "to secure sensible, uniform federal and state regulation of pesticides by passing pre-emptive legislation while allowing local input into the federal/state regulatory



Source: Professional Lawn Care Association of America

Are you on this list?

■ Here is the most recent list of communities that either have local pesticide application laws on the books, or are in the process of passing such legislation.

If your community is listed, it is imperative that you get involved at local council meetings and let your voice be heard (see "Local laws: What to say").

An asterisk (*) denotes a community where previous "activity" has been reported, communities that bear further watching or investigation.

Alabama
Huntsville*
Colorado
Boulder
Denver*
Delaware
Elsmere
Illinois
Aurora
Chicago
Franklin Park
Highland Park
Hoffman Estates
Lake Zurich
Lincolnshire
Oak Park
Palatine*
Rockton
Schaumburg
Wauconda*
Iowa
Waterloo*
Iowa City*

Continued on page 9

Are you on this list?

Kansas
Wellington
Kentucky
Georgetown*
Maine
Lebanon
Maryland
Prince Georges County*
Montgomery County*
Massachusetts
Boston*
Greenfield
Mansfield
Mashpee
West Springfield*
Wellesley
Wrenthram
Yarmouth
Michigan
East Lansing*
Flushing
Livonia*
Milford
West Bloomfield
Minnesota
Bloomington
Cottage Grove*
Minneapolis*
Roseville*
St. Louis Park*
St. Paul
South Shores
Missouri
Lake Winnebago (in process on 8/12/91)
Montana
Missoula*
New Jersey
Berlin*
Bernardsville
Bloomingdale*
Cresskill
Dumont*
East Windsor
Evesham
Fair Lawn*
Galloway*
Gibbsboro
Hanover
Kinnelon*
Medford Lake
Old Bridge
Ringwood
River Edge*
Tenafly*
Vernon
West Milford
Woodcliff Lake*
New York
Buffalo*
Cazenovia
Tarrytown
Ohio
Berea
Euclid (in process on 8/12/91)
Fairlawn
Fairview Park
Hillsboro
Mayfield Village
Parma
Oklahoma
Edmond
Pennsylvania
Abington
Bethlehem*
Millcreek Township*
Murraysville*
Packer Township*
Plum
Westchester
Vermont
Burlington
Washington
King County*
Wisconsin
Casey
Kenosha*

Source: National Agri-Chemical Association

scheme."

The Supreme Court decision, which ruled that states and local communities across the country had the right to draft and pass their own pesticide laws, resulted in the CSPP's formation.

The National Agricultural Chemicals Association (NACA) was its prime mover. Individual associations on the membership roster of the CSPP include NACA, the United States Chamber of Commerce, the Professional Lawn Care Association of America, the National Pest Control Association, the Chemical Manufacturer's Association, the Chemical Specialty Manufacturer's Association, the Chemical Producers and Distributors Association, and Responsible Industry for a Sound Environment (RISE).

One of the most organized and influential groups in the green industry—the Golf Course Superintendents Association of America (GCSAA)—is not on the CSPP's membership roster, but could be in the future. At the GCSAA's quarterly Board of Directors meeting later this month, involvement with CSPP is an agenda item.

Already, help has been offered to lawn care operators in Missoula, Mont., and other areas where local regulations have become stifling to business.

According to CSPP members, the organization's primary purposes are two-fold:

1) to amend the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) to provide clear language on pre-emption of local regulations; and

2) to work at the state level to provide clear language on pre-emption of local regulations.

"The bulk of the work is yet to come," notes Steve Russell, assistant general counsel to NACA. "We have, however, drafted technical amendments to FIFRA which we feel will go a long way in clearing things up."

If you have heard rumblings in your community about possible local pesticide legislation, you are urged to write the National Pest Control Association's Government Affairs Dept., 8100 Oak St., Dunn Loring, VA 2202, or fax messages to (703) 204-2271.

—Jerry Roche

State ag departments prefer FIFRA

■ The National Association of State Departments of Agriculture (NASDA) has issued a position statement endorsing the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) as its preferred method of pesticide regulation.

"The regulation of pesticides at the federal and state levels of government has proven to be a very effective means in which to administer this important program," says the NASDA, which believes that municipal regulation will "greatly impede the coordinated and orderly federal and state regulatory framework already in place."

The NASDA also urges states to enact legislation pre-empting local regulation of pesticides.

End-user groups: Divided or united?

■ Two user groups form the core of the green industry's campaign for fair pesticide legislation: the manufacturer's group, Responsible Industry for a Sound Environment (RISE), and the applicator's group, the Professional Lawn Care Association of America (PLCAA).

Both groups want more applicator training, and are working together to finalize a national program. The two disagree, however, on the issue of homeowner responsibility for posting and notification. PLCAA wants it, RISE does not.

"Our concern is with an organization going outside its own industry trying to regulate the homeowner," says Dr. Dave Duncan, RISE's issues chairman. Duncan admits that manufacturers do not want to work counter to LCO desires, but that "we will if we have to."

Duncan: 'An industry divided cannot stand.'

McClure: RISE, PLCAA notification split will 'sort itself out.'

Ann McClure, executive vice president of the PLCAA, says the issue will eventually be resolved. But for now, says McClure,

LCOs "just don't think it makes sense to further regulate them for using the same products as the homeowner."

"The answer is not at the federal level," says Duncan. "We can't count on a change in FIFRA. We have to go to the states."

Duncan says RISE is counting on the agricultural lobby "to lead the effort" in convincing state legislators to be prudent.

The RISE Action Plan

- Defend the marketplace, and minimize burdensome legislation and regulation.
- Provide education and training tools.

—Rights-of-way program, in cooperation with USDA and EPA

—LCO training, in conjunction with PLCAA

- Resolve federal, state and local issues as they arise.

—Federal/state pre-emption (*Casey vs. Wisconsin*)

—National Lawncare Notification (Senate Bill 849)

—Site remediation

—Container recycling

—Water quality

—Minor use re-registration

—Defeat Ohio's Proposition 65 initiative

- Support grassroots organizations.

—Fund state legislative issues

—Provide seed money for new alliances. $15,000 has been approved for this activity. RISE recently donated $3000 to the newly-formed Iowa Alliance for Environmental Concerns.

From the field: Grassroots efforts at work

New Jersey: Ilona Gray, executive director of The Alliance for Environmental Concerns in Wayne, is a horticulturist by education, but she's become a green industry activist by necessity.

Gray and others like her have one overriding concern: that pesticide legislation makes sense, and is not duplicated or changed drastically from one city to another.

"What we have found is that the local municipalities are completely unaware of what type of regulations there are in the state, and sometimes the concerns they have have already been addressed.

"Maybe what (has happened) is a misapplication on the part of some applicators in their district that can be taken care of

Continued on page 12

Local laws: what to say

■ Here are some timely tips offered by the Professional Lawn Care Association of America (PLCAA) for arguing against local regulation of pesticide application.

If local legislators are considering such actions, be sure to notify the PLCAA at (404) 977-5222. If you so desire, the PLCAA will also offer further assistance.

When a local ordinance is proposed or about to be proposed:

- Make sure legislators know that current federal and state laws, developed by regulators with scientific and technical expertise not available on the local level, already afford sufficient protection.
- If your state laws require posting and/or pre-notification, make sure the locals know of their existence.
- If health issues are raised, let locals know that a long-term study of a major lawn care company whose employees were exposed to pesticides at their full-strength concentrations, showed no adverse health effects. Offer to provide them a copy of the study, available through the PLCAA.

Let them know that substances applied on lawns are greatly diluted and contain about 93 percent water, six percent fertilizer and just one percent pesticide.

- If environmental issues are raised, point out Dr. Tom Watschke's work at Penn State University that concluded "the impact of well-managed turfgrass on water quality appears to be positive in nature." Offer to supply copies of Watschke's study, also available through the PLCAA.
- If only commercial services are covered by the proposed ordinance(s), point out that 85 percent of all lawn care is performed by the do-it-yourselfer, who uses exactly the same products as professional lawn care companies.

If authorities still want to move ahead with the bill:

- Offer to work with local government to pass a state lawn care bill containing PLCAA-endorsed provisions.

If authorities reject to work on state bill, still want to move ahead:

- If **posting** is being considered, suggest the points listed below as part of a compromise bill, so some semblance of conformity with other possible localities can be maintained:

*Posting for all applicators

*Signs to be posted at the primary point(s) of entry at the time of the actual application, in a color that contrasts to background colors

*Allow residents or owners to remove signs one day after application

*Signs measuring 4-by-5 inches containing not less than 18-point type using the wording: "Landscape Care Application—Please Avoid Contact"

*Signs bearing the company name and telephone contact number

- If **pre-notification** is being considered, suggest the points listed below as part of a compromise bill:

*Advance notification of customers *upon request*

*One day's notice of application upon request of the owner or owner's agent of abutting properties

*Pre-notification of all residents within a specified distance of an application (meaning they could receive multiple notifications, with the effect of rendering them meaningless or of creating unwarranted alarm)

- If **written contracts**, having the effect of a contract, are being considered, suggest they contain the following items, as part of a compromise bill:

*Brand name of the product to be applied;

*Cost of the basic services to be performed;

*Chemical type (natural or synthetic fertilizer, pesticide or soil conditioning agent) of the product;

*General reason for the product's use as stated on the label;

*Concentration of the end-use products and rate of application;

*Special instructions related to the customer's use of the lawn after application;

*On request, a copy of the label of the product(s) applied.

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Stress is the enemy of quality turfgrass.

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Circle No. 112 on Reader Inquiry Card

Gray: State associations need financial backing.

Grooms: Better understanding than outsiders.

already."

Gray says that, generally, once town leaders hear the advice and concerns of the professional applicators, they either drop the ordinance idea or write it to be practical.

Gray stresses the importance of awareness and support for association activity.

"We're asking (association) members to watch the newspapers and attend town meetings to keep track of any indication that there's going to be activity to restrict pesticides significantly. If they find out, notify us immediately."

Gray says the state lawn or landscaper associations need all the help they can get, both informationally and financially.

Oklahoma: Although the city of Edmond is the only Oklahoma town we know of operating under local pesticide regs, Brad Johnson, president of Green Up! in Tulsa is playing it smart from a public relations point-of-view: he advises do-it-yourselfers on proper lawn care via a weekly AM-band radio program.

Although Johnson admits to receiving a few calls on the heels of the latest 2,4-D report, he says the anti-pesticide feeling in Tulsa is "nothing like it is on the East Coast."

He credits the lack of public worry to the agricultural state's dependence on disease- and insect-free crops.

To the callers who did question the effect of 2,4-D on dogs, Johnson says he explains that the product has been exhaustively researched, has been in use for 40 years, and has the blessing of the Environmental Protection Agency.

Though notification is not a mandate in Tulsa, Johnson takes the initiative and calls neighbors of customers beforehand, just to do what he thinks is right and fair.

Iowa: Since becoming communications point-man for the Iowa Professional Lawn Care Association (IPLCA) about two years ago, Mike Grooms has had plenty to keep him busy. The state is full of activists out to ban or limit pesticide use, but the association has proven itself capable of banding together to bring about fair and practical change, or at the least, a continuance of a workable status quo.

In February of this year, the IPLCA rallied its membership to attend a critical public hearing on sign regulations. The opposition wanted 12-inch signs; IPLCA wanted to stay with the 4-by-5-inch size.

"Letters of support were written by pesticide user groups," remembers Grooms, including structural pest control operators. "We had 18 members of the association speak publicly versus three people from environmental groups.

"From that standpoint, I think we can muster a public support policy. That is probably the most critical."

In January, about 70 state legislators will be invited to attend the association's second annual legislative reception. Grooms says it's the perfect time for user groups to tell their story.

"Lawn care operators, sod producers, superintendents, people who make their living in the industry will invite state legislators to dinner. We get to know them and give them a chance to gain a better understanding of what we do in Iowa, not only to earn our living, but also with a concern for environmental issues.

"I think we have a better understanding of our role in turfgrass and the environment (than do outside activists)," says Grooms, who predicts that even if some legislators show up just for a free meal, many will keep an open mind.

The Iowa Alliance of Environmental Concerns is a new coalition of urban and rural pesticide users.

"We feel we would be best regulated on the state level rather than in 900 Iowa towns," says coalition director Mona Bond.

According to Bond, 98 percent of all pesticides applied in Iowa are in the ag sector.

The Iowa alliance, like RISE, is not concerned with regulating do-it-yourselfers.

"At his point," says Bond, "I don't feel it would be in our best interest to go after the homeowners. Home rule is very important, and individual freedoms are sacred."

—Terry McIver

LM REPORTS

The art—and science—of snow blowing

Snow blowers and throwers—in walk-behind, rider and tractor attachment models—easily cast aside what Old Man Winter casts your way.

■ Snow throwers, and the ability to attack the white stuff with gusto, can add a winter service dimension for landscapers and LCOs, who must also enlist 1/2- to 8-foot plows to tackle and satisfy commercial accounts. And snow removal as an auxiliary service needs careful consideration beforehand to insure profitability.

Like all powered equipment, the starting rule is to fit the right machine with the task at hand. Over- or under-powered

Cushman Hansen

snow blowers are of little value. The message: shop around to compare features, operating specifics and cost. Decide what you're seeking to accomplish and purchase accordingly.

Snow blowers and throwers come in

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Circle No. 280 on Reader Inquiry Card

SNOW REMOVAL: LOTS TO CHOOSE FROM

LISTED BELOW ARE SELECTED MODELS FROM SOME OF THE INDUSTRY'S MAJOR MANUFACTURERS OF SNOWBLOWERS OR SNOWTHROWERS. COMPANIES LISTED BASED ON RESPONSE TO A *LANDSCAPE MANAGEMENT* INFORMATION REQUEST.

Company	Model	Walk/ride/ attach	Clearing swath	Chute rotation	Speeds forward/rev.	Special features	Circle No.
Bolens	5210	walk-behind	21"	n/a	3/1	Tecumseh Snow King engine	300
J.I. Case	Angle blade	attachment	66"-72"	n/a	n/a	Fits 1835C, 18408, 1845C Uni-loaders	301
Cushman	Hansen snowblower	attachment	50"	Auger speed 237 rpm	n/a	Electric chute control	302
John Deere	TRS32	walk-behind	32"	220 degrees	6/2	10 hp, 4-cycle engine	303
Excell	V-Blade	attachment	48"	n/a	n/a	11 gauge welded steel	304
Grasshopper	412	attachment	48"	200 degrees	n/a	Fits Grasshopper 600/700 mowers	305
Honda	HS828	walk-behind	28"	210 degrees	variable	8 hp, 4-cycle engine	306
Kubota	B2586	broom attachment	47"-60"	2-way angle	n/a	Wire or wire/poly bristles	307
Ransomes	Jaguar 103044	attachment	50"	Electric auger: 14"/175 rpm	2-stage	PTO shaft drive	308
Olathe	150	attachment	52"	180 degrees	n/a	Fits Toro 300/220D tractors	309
Snapper	10302	walk-behind	30"	230 degrees	6/1	10hp, 4-cycle engine	310
Toro	1132	walk-behind	32"	n/a	4/2	4-cycle 11 hp Briggs & Stratton engine	311
Troy-Bilt	5hp	walk-behind	n/a	220 degrees	3/1	13" auger	312
Walker	SB6670	attachment	42"	228 degrees	n/a	Soft cab, adjustable skid shoes	313

Source: LM survey

Kubota attachments

Walker sweeper

Grasshopper Model 412

either one- or two-stage models. Both are usually adequate to clear off tighter spaces such as walkways, ramps, patios and modest-sized driveways, but the two-step models are stronger workhorses which perform better in larger areas.

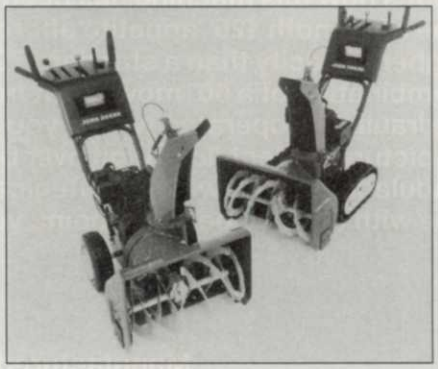
● One-stage models (3 to 4 hp) collect snow by turning augers which then funnel the material to the chute and spout, blowing or throwing the material upward and outward.

● Two-stage models can be equipped with a high-speed impelling system as well as augers to add power to casting the snow outward, sometimes as far as 30 feet. In two-stage models, the auger generally turns slower.

Snow blowers and throwers can clear up ice, too, if worked at a slower speed. Gravel surfaces can be easily cleaned as well, particularly if the skids can be adjusted to about 1-1/2 inches above ground level to avoid launching stones.

At least one consumer rating guide also recommends self-propelled models—nearly all now marketed—in the larger walk-behinds (5 to 10 hp). A reverse gear also eases operation. A high-speed/low-speed transmission combination provides the best versatility. Limited-slip differential gearing enhances traction.

An electric starter is a good option,



Deere TRX24, TRX26

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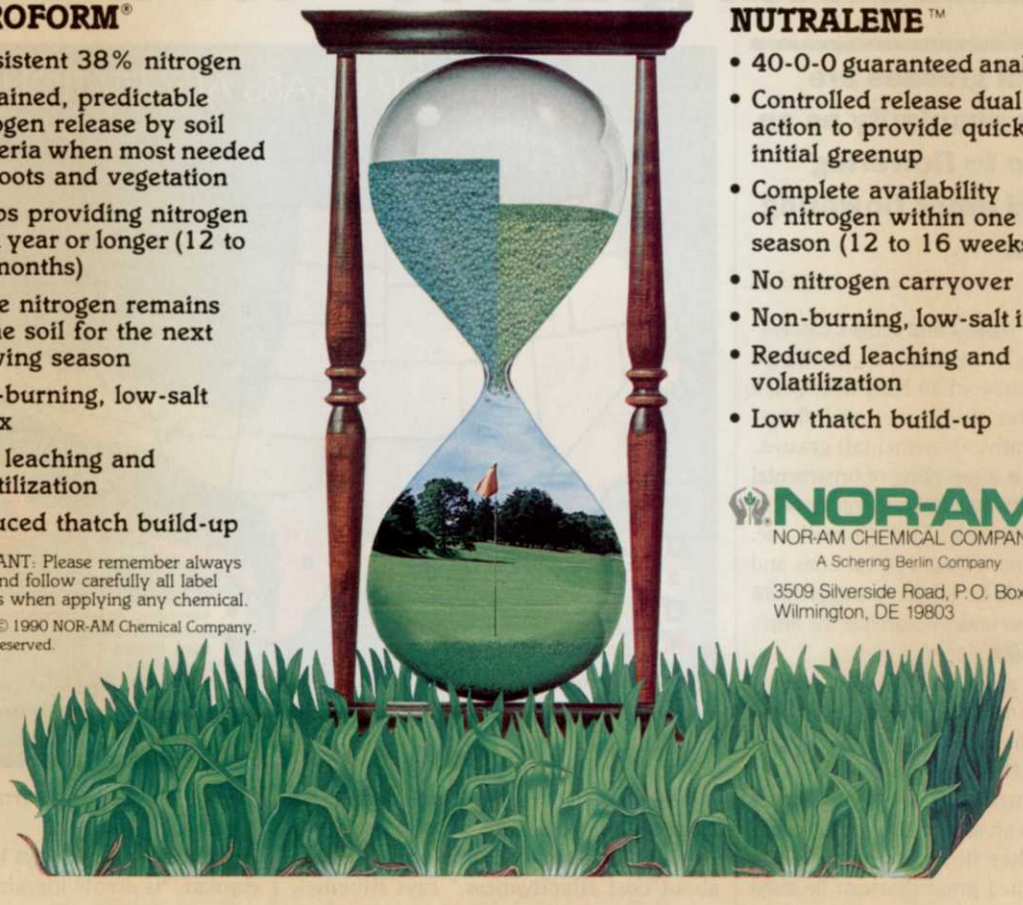
- Reduced thatch build-up



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Ransomes Jaguar 4000

Excel 60" dozer

Olathe Model 150

although many engines have been especially designed for starting in cold conditions. Primer bulbs and other devices for easier manual starting are available.

Consumer Guide, a product ratings publication, also has prepared tips for using and maintaining snow throwers.

Among CG's suggestions:

● Keep the fuel tank filled with fresh fuel starting in the fall. Topping off the tank helps to fend off moisture condensation during times of temperature changes.

● Thoroughly check engine oil levels, including the gearbox, and follow manufacturer's instructions for oil types and proper levels. Change the oil at the end of the season, readying it for the next season.

● Wax the unit's chute and spout. This makes it easier for snow and ice to move along the passage, improving performance.

● Store the unit in an area that is the same temperature as outside. If stored in a heated space, allow the snow blower to cool to the outside temperature before using it. This practice eases the problem of snow melting onto the surface of the unit itself. The melted snow then can ice up, leading to clogging.

● Add tire chains to improve traction, particularly on larger units. Cost: usually around $35.

—Jack Simonds

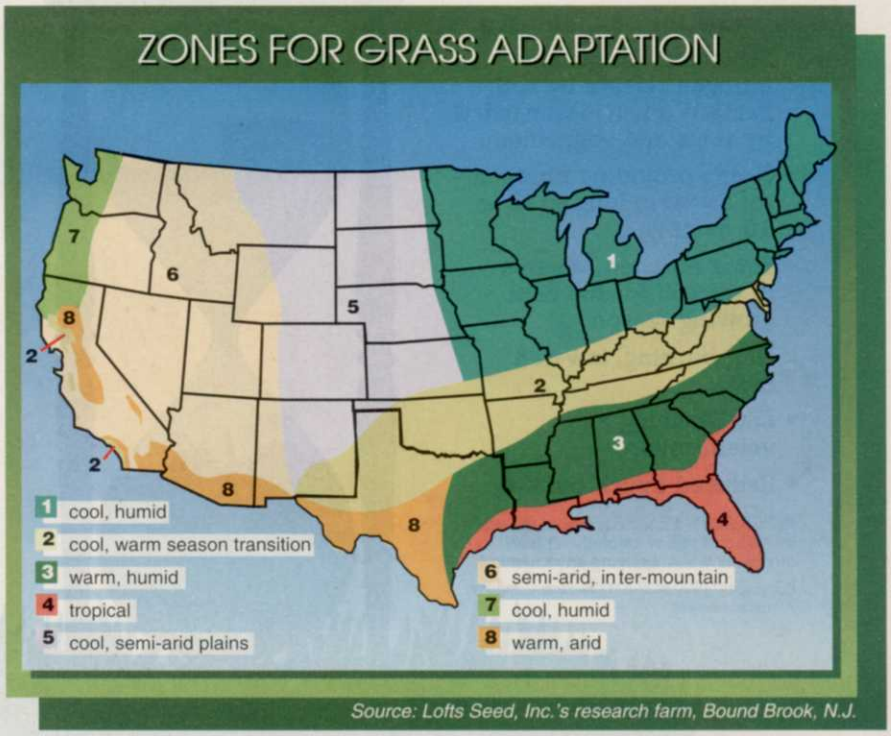
Ornamental grasses—for the bold

Ornamental grasses are growing in popularity as an alternative to flowering shrubs and other flowering perennials.

■ Tall grasses, rushes and sedges can easily and strikingly augment all landscape settings, says nurseryman Kurt Bluemel, a leading marketer, researcher and cheerleader for decorative (ornamental) grasses.

Shown here is a sampling of ornamental grasses adaptable to eight climatic regions of the U.S. It's a small sample: Kurt Bluemel, Inc. alone markets more than 120 varieties and searches worldwide for others to complement its 600 grasses now under research at the firm's Baldwin, Md., facility.

"If you stop and look, you can see how beautiful ornamental grasses are, how light affects their beauty. There are so many virtues that can be listed," says Bluemel. Ornamental grasses are growing in popularity as an alternative to flowering shrubs and other flowering perennials. Any long-stemmed grass that can be used as a substitute in these instances provides a good working definition of an ornamental grass, Bluemel says.



Source: Lofts Seed, Inc.'s research farm, Bound Brook, N.J.

"Designing grasses come into first place for someone with a little more progressive thinking or someone thinking about cost effectiveness," says Bluemel. The varieties grow faster, require less maintenance and are hardier in the face of disease, insect infestation and drought, when compared with ornamental shrubs, Bluemel claims.

"The old guard," says the veteran nurseryman, "is deeply ingrained in round and cylindrical shapes. This conceals what this country has to offer."

Continued on page 18

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a. Chinese silvergrass (Miscanthus sinensis/Eulalia japonica): Zones 1-8

b. Eulalia grass (Miscanthus saccariflorus): Zones 2, 3 and 8; some areas of zones 1, 5 and 6)

c. Maiden grass (Miscanthus sinensis 'Gracillimus'): Zones 2, 3, 4 and 8; some areas of zones 1, 5 and 6

In Europe and Asia, by contrast, public areas routinely are beautified by ornamental grasses. Some public areas in the U.S. have followed suit.

Golf course superintendents also have heard and understood his message.

"I tell (golf course superintendent) audiences that I'm the anti-turf man. I am the grass man, and I like my grass standing up, not cut off. I like my grass in golds and reds," says Bluemel, laughing. "In the roughs and bunkers, these plants can be good ground cover," he adds.

Landscapers, too, are learning the benefits—both practical and aesthetic—of adding a touch of pastel color to the scene, color only found in the tall ornamental grasses either indigenous or adaptable to North American climates.

—Jack Simonds

d. Plume grass/Ravennae grass (Erianthus ravennae): Zones 2, 3, 4, 7 and 8; some areas of zones 1, 5 and 6

e. Pampas grass (Cortaderia selloana): Zones 3, 4 and 8

f. Fountain grass (Pennisetum alopecuroides): Zones 2, 3, 4, 7 and 8; some areas of zones 1, 5 and 6 Zones 3, 4 and 8

g. Weeping lovegrass (Eragrostis curvula): Zones 1, 2, 5, 6 and 7

h. Sheep fescue (Festuca ovina glauca): Zones 1, 2, 5, 6 and 7

Photos courtesy of: Wayside Gardens (1 Wayside Lane, Hodges, SC 29695-0001; (800) 845-1124). Park Seed Co. and Lofts Seed, Inc.

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Duosan WSB is not yet available for sale in California. © 1991 Grace-Sierra Crop Protection Company. Duosan is a registered trademark of Grace-Sierra Crop Protection Company.

Sprayer calibration simplified

In the name of safety, in the name of profits and in the name of professionalism, keeping pesticide sprayers properly calibrated is a necessity.

■ To calculate the level that your sprayer is applying liquid to an area, consider these three methods offered by Brady Surrena of ISK Biotech in Mentor, Ohio. He believes the methods—once individual nozzles have been checked for proper operation—is simple. Calculations are based on the amount of liquid delivered to a smaller area and projected to one acre. From these calculations, gallons per acre (gpa) are determined.

If your test calibration determines the gpa is not what you need, the easiest method is to change the sprayer pressure. An increased pressure will increase the gpa; a decrease in pressure will decrease the gpa.

Method one

1. Measure an area 660 feet (40 rods) long.

2. Fill the spray tank up to the neck with water and mark the water level.

3. Spray over the 660 feet at the sprayer pressure and speed to be used in the field.

4. Record the volume necessary to refill the spray tank to the level marked in Step 2.

5. Calculate the amount of water applied per acre by using this formula:

$$\text{gpa} = \frac{\text{gals. applied over the 660 ft.}}{\text{width actually treated by sprayer (ft.)}} \times 66$$

example:

$$\text{gpa} = \frac{12.12}{40} \times 66 = 19.99$$

6. The width treated by the sprayer would be the swath width for broadcast application.

Example:

Swath width = 40 ft.

Test length = 660 ft.

Area of test = 660 ft. x 40 ft. = 26,400 sq. ft.

$$\text{Acres of test} = \frac{26{,}400 \text{ sq. ft.}}{43{,}560 \text{ (sq. ft./acre)}} = .606 \text{ acres}$$

Water to fill = 12.12 gals.

$$\text{Vol./acre} = \frac{\text{gals. to fill}}{\text{acres of test}} \quad \frac{12.12}{.606} = 20 \text{ gpa}$$

Method two

1. In a band application, accurately determine the width, in inches, of the band sprayed. In a broadcast application, measure the distance, in inches, between the two adjacent nozzles.

2. Locate this width in the table below and read off the corresponding course distance. Mark it off in the course to be sprayed.

Width	Course dist.	Width	Course dist.
8"	510'	18"	227'
10"	408'	20"	204'
12"	340'	22"	185'
14"	291'	24"	170'
16"	255'	26"	157'

3. For more than one nozzle spraying the same area, as with fungicide, measure the band width of one of the nozzles and see Step 8 below.

4. Tie quart container to one nozzle to catch all that nozzle's spray.

5. Start a distance back from the beginning of the course to get operating speed, and turn sprayer ON at the beginning of the course and OFF at the end.

6. Remove quart container and read volume collected, in ounces.

7. For more than one nozzle spraying same area, multiply ounces collected by number of nozzles spraying the same area.

8. Ounces collected will equal your gpa rate.

Method three

1. Measure out 660 feet or 40 rods in the field to be sprayed.

2. Drive over the 660 feet with the sprayer and equipment that will be used during the time of spraying. This will most nearly simulate the conditions during the time that the chemical is actually being applied. Record the time required to travel over the 660 feet at the speed which will be used for the field.

3. With a stationary sprayer operating at the pressure to be used in the field, catch the volume of water delivered from 2 to 4 nozzles in the length of time it took to travel the 660 feet (time found in Step 2).

4. Record the volume caught from the nozzles and calculate how much would have been delivered from all nozzles:

$$\text{gals. over 660'} = \frac{\text{gals. caught x \# nozzles on sprayer}}{\text{\# nozzles from which spray was caught}}$$

5. Calculate the amount of water applied per acre:

$$\text{gpa} = \frac{\text{gals. applied over the 660'}}{\text{width actually treated in feet}} \times 66$$

Landscaping public areas for employee and consumer safety

Of course you're not negligent. But in court, all of a sudden you'd better be prepared to prove it.

by Dr. Arthur H. Mittelstaedt

■ In court cases involving people who are injured on public lands, about 65 percent of the defendants are government or university employees—a number that is rapidly growing.

Thus, landscape managers of public lands must be concerned about both employee safety and consumer safety, par-

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Circle No. 107 on Reader Inquiry Card

ticularly from a liability standpoint.

To be safe, an employer must know his or her responsibility, accountability and the communication process. Let's examine each of these terms and what it means to the landscape professional:

Responsibility

Many municipalities or businesses avoid even thinking about safety. Legally, however, it is becoming negligent to take this approach. Omission is as bad as commission in negligence.

Top level management, if not establishing a safety philosophy, must support the one proposed and assign its policy to implement.

Policies, tailored to the organization, define the goals and objectives of the "safety effort."

Accountability

Many municipalities or businesses don't know what is safe or what is unsafe, either for employees or for customers.

The organization must possess the following:

- A complete inventory of its property or plant, especially areas subject to public use. Standards for those areas must be identified.
- A complete schedule of its activities or functions that are subject to public use. Standards for such use must also be identified and associated with such public involvement.
- A complete record of all incident forms, accident reports, logs, inspection sheets, patrol reports, medical and insurance forms, safety audits, insurance memos and all other fact-reporting files.
- A file of outside agency reports and record forms so that police, ambulance, hospital and other records can be coordinated.
- A manual which contains the aforementioned items and minutes of the Safety Committee meetings, including action and implementation schedule for follow-up on concerns discussed. It should contain personnel information of the safety officers, guidelines for investigating accidents or other safety-related problems. It should also contain the various items specified in the accompanying chart.

Communication

The communication system must include:

- Information: getting the awareness of safety to the public.
- Discussion: creating a means for feedback from the public.
- Negotiation: establishing win/win situations by responding, accommodating, attending to and following up on any type of incident or accident. Nothing is too small.

Having defined "safety," its relationship to liability and risk assumption will be covered in future issues.

—Dr. Mittelstaedt is board chairman of the Recreation Safety Institute, P.O. Box 392, Ronkonkoma, NY 11779. Phone number at the institute is (516) 563-4806.

THE SAFETY MANUAL

1) Specifications for safe practices associated with equipment the public may come in contact with, like vehicles, mowers, chippers, saws, etc.

2) Regulations, including rules and activities prohibited in public areas.

3) An outline of the sign system and how it conforms with ANSI standards, U.S. DOT standards and other criteria.

4) Warning labels placed on any item the public and employees may contact.

5) List of all protective devices in use and where they are kept.

6) An outline of all emergency treatment that can be applied by staffers; emergency services and how they conform to ASTM F-30 standards and are approved by local authorities.

7) Search/rescue/recovery procedures.

8) A plan for disaster preparedness and readiness for emergencies such as terrorism, fire, storms, earthquakes, explosions, tornados, wrecks, sickness, toxic fumes, etc.

Gobble up tree limbs—not yours

Faster drum rollers on new chippers mean more danger for operators. Follow these operator hints to safety.

■ Industry leaders are expressing alarm over the increasing numbers of operators who are improperly using disc-knife chippers—often with tragic results.

These machines are designed to gobble up large tree limbs—and large limbs only—yet operators insist on trying to ram brush through the device. Amputation or death can result.

"It would be analogous to someone sticking his or her hand under a running lawnmower to clear away grass," comments Peter Gerstenberger, director of safety and education at the National

Arborist Association.

"It was never a problem with the machine itself. It was a problem with the operators getting their hands in there," he says.

A disc-knife chipper is different from the older roller drum chipper model in that the faster roller drum relies on the knives to pull in the branches.

Because the disc-knife chipper is designed for larger limbs, it has infeed rollers close to the chute opening to pull in the heavier load.

"That means the operator can get his or her hands closer to the infeed rollers," Gerstenberger explains. "Once you're in there, the power of the thing will break your arm and drag you into it."

Some manufacturers have countered by offering chute extensions, but certain operators still aren't respecting the machine's design. "Now some people are leaning farther into the infeed chute," Gerstenberger laments.

A push stick will not work with the slower feed rate found on the disc-knife chipper: it is simply not designed for smaller twigs.

"It's clearly marked, yet people do it day after day," Gerstenberger says. "The temptation to get that last load of brush in there is always around."

If a disc-knife machine is on the job, policy should be that "all the fine-rakings are put in a garbage can and placed in back of the truck," he suggests. "Sure, disposal is a problem, but it's a much smaller problem than if you have an employee get caught in a disc chipper."

Exact casualty figures are not available, but Gerstenberger says the liability factor stemming from accidents has driven some disc-knife chipper manufacturers from the market.

Gerstenberger expresses hope in a newer design that's been on the marketplace for about a year. The pocket-knife chipper has smaller knives on a larger drum. "They operate much like a drum chipper, and the hazard associated with disc-knife chippers is not there."

He says this device will grind just about "everything up to the primary branches and the trunk."

—Jim Guyette

—The author is former editor of "Lawn Care Industry" magazine. He is a freelance writer based in Cleveland, Ohio.

Estimating: Quantify your own job needs

If you don't have the time to prepare a comprehensive bid by bid date, then don't start it.

by Kent Miller

■ Preparing a comprehensive job estimate is a tedious and often ungratifying experience.

One shortcut that should never be taken is to use the vendor's or supplier's quantities and bid amount without thoroughly quantifying the work yourself. Without quantifying the work yourself, you'll be unable to identify their omissions.

If you receive a quote from a supplier, vendor, or subcontractor, thank them for it. Then compare the quantities to your own. If they've picked up something you've omitted, they've just done you a big favor while there is still time to correct it.

Kent Miller: Do it yourself.

Many of our industry suppliers go to a great deal of expense to provide quotations based on their own quantity take-offs.

This is indeed a great service that would allow us, their customer, the opportunity of checking our take-offs for possible errors. They do not intend for the estimator to rely heavily on their quantities and clearly state a disclaimer on every quote.

We receive quotations from the take-off list we submit to suppliers and vendors prior to the bid date. Some vendors choose to submit their own quantities and unit prices based on their own take-off. Since no two take-offs are alike, you can imagine some of the errors and omissions you'll discover in making the comparisons.

Continued on page 24

MAJOR ELEMENTS OF LANDSCAPE & IRRIGATION PLANS

QTY.	DESCRIPTION
	Hydroseed
	Hydro stolons
	Sodded lawns
	Rototill
	Mulch 1"
	Mulch 2"
	Decomposed granite
	Raked earth
	River run stone
	Boulders
	Bark chips 1"
	Steel edge
	Cast concrete curb
	Extruded curb
	Redwood edge
	Tee stakes set
	Lodge pole set
	Redwood set
	Mounds topsoil
	Mounds dirt fill
	Clean up
	Removals
	Haul debris
	Misc. rental
	Misc. subcontract
	Groundcovers
	Shrubs installed
	Trees installed
	Spray pop-ups
	Lawn sprayers
	Filters
	Pressure regulators
	End flushes
	Emitters
	Controller walls
	Wires
	Gate valves
	Quick couplers
	Misc. rentals
	Misc. supplies

Source: Kent Miller

A supplier's quote may differ greatly from your own for several reasons. Let's state a hypothetical case in which the vendor was an irrigation supply house and their quote did not include the copper pipe, copper fittings, or booster pump station because they weren't a supplier of it. Maybe the quotation originated from the nursery and one species wasn't supplied because it wasn't in stock or available.

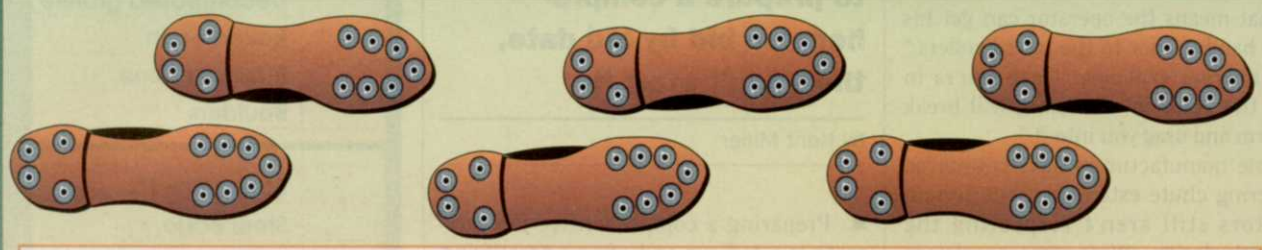
Margins today do not allow for errors or omissions. If you don't have the time to prepare a comprehensive bid by bid date, then don't start it. It is much easier to walk away from a bid date than it is to finish a bad job.

We jokingly say that a bad job only gets worse.

All joking aside, bad jobs cost money and typically originate from poor estimates.

—The author is vice president of The Groundskeeper, Inc. in Tucson, Ariz.

GOLF TURF MAINTENANCE IN HEAVY TRAFFIC AREAS



■ Here's some advice for curbing the ravages of heavy traffic on greens, tees and fairways from Randolph P. Russell, groundskeeper for the city of Austin, Texas.

Defining "heavy traffic" is elusive in itself, says Russell. Amount of wear-and-tear depends on the region, predominant weather patterns, and—perhaps most importantly—the varieties of grasses being used.

Generally, Russell says he notices that at least 45,000 rounds per year qualify a course for the "heavy traffic" category.

Avoiding the pitfalls of stressed out playing surfaces can be accomplished from tips learned at the "University of Experience:"

● Experiment with nitrogen levels, and don't be afraid to go beyond the norms. Greens recover better from injury, and thatch build-up is not a problem.

● Consider a one-to-one nitrogen/potassium ratio.

● Resist the temptation to use extremely low cutting heights, especially on putting greens, during periods of heat stress.

● Raise fairway cutting heights as winter approaches. This will improve root depth and not adversely effect playability if done thoughtfully.

● Consistent aerification is a must.

● Minimize verticutting done to thin ryegrass, especially in spring. Close mowing and occasional double-cutting can be more effective.

● Look at all chemical applications from a new perspective, testing where possible under present traffic conditions.

Marketing for small businesses: do-able concepts

'Marketing' is not a jungle of theory and insatiable devourer of time. It's a way to increase profitability.

by Adrienne Zoble

■ You don't have to be a marketing wizard with endless unscheduled hours in order to improve your marketing efforts.

An objective look at your business will almost always reveal already existing marketing opportunities. Here's how to diagnose and perform successful marketing tactics:

1) An analysis of current customers and your relationships with them will likely reveal several opportunities.

Do you discuss the job with the customer after its completion? Doing so will reveal strengths on which you can capitalize and weaknesses on which you can improve. In addition, it may well lead to additional business.

Adrienne Zoble: Marketing is 'do-able.'

Do you make regular sales calls to existing customers? Don't presume a customer will call you. Sales calls to existing customers cost about 10 to 20 percent of what a sales call to a prospect costs.

Do you schedule strategic lunches or dinners with key customers? Such meetings can strengthen relationships, lead to new business and generate referrals. The

Why not lighten up?

Reduce Your Clippings

and the costs of mowing, edging, trimming & clean-up

Whether your goal is to mow every week without getting bogged down or delayed, or whether you would like to skip every other mowing, the benefits of Embark® PGR are the same . . . big savings of time and labor.

Everett Mealman, President
PBI/Gordon Corporation

In light of today's economy and environmental constraints, you *must* reduce these costs. We can help you:

☐ **An application of Embark Lite can slow down the growth of cool season turf grass for 3 or 4 weeks to such a degree that mowers will virtually glide over the turf. Clippings will be reduced by 50% or more, reducing or eliminating the need for double-mowing, raking, blowing, etc. You'll be able to stay on schedule and budget during the peak growing season, even when there is foul weather or other problems that may interfere with mowing. Your cost: Only about $18 per acre.**

☐ **A tank mix of Embark Lite and Limit® PGR can slow down the growth of cool season turf grasses for up to six weeks during the major growth period, and reduce the number of mowings by over 50%. The chemical cost of approximately $45 per acre is appreciably less than the cost of a mowing when everything is considered.**

☐ **A tank-mix of Embark 2.S and Ferromec® Liquid Iron can reduce the mowing of warm season grasses like centipede and St. Augustine by more than 50% for six to seven weeks for only $45 per acre. (Of course, bermuda costs more, but mowing it also costs more.)**

There is nothing on the scene today that more efficiently slows down the growth of turf, thus reducing mowing time, than Embark (mefluidide). How timely, given the current landfill situation. Turf quality needn't be compromised, thanks to a new fine-turf formulation, tank-mixtures, and specific directions for ornamental turf use.

Embark is foliarly absorbed and directs the life energy of the plant away from the development of seedheads and stem elongation, which means that the plant's root mass is not used up in support of excessive topgrowth. Interestingly, when untreated grasses may begin to show the effects of excessive heat and drought, Embark-treated grass actually enjoys a rebound of life for a couple of weeks from the energy that was stored up in the roots.

Embark Lite is the mefluidide formulation especially designed for fine turf. Limit is amidochlor, a root-absorbed PGR which is also a PBI/Gordon product. When tank-mixed with Embark Lite, the Limit helps deliver the maximum duration of growth suppression.

There is almost no end to the creative things you can do with the various formulations of Embark and tank mixes that are available.

Many of these uses are detailed in our PGR Applicator Guide, which we want to send you. It is a road map to efficiency in the management of ornamental turf that can help you meet today's challenge when 85% of the commercial property owners and managers report that they will be seeking competitive bids on their landscape management contracts this season.

It also contains many management suggestions for using Embark, such as:

- **How to guard against discoloration in PGR-treated turf**
- **How to be compensated for *not* mowing the grass**
- **Recommended mowing practices for beauty enhancement of PGR-treated turf**
- **How to use Embark to hasten overseeding establishment or to coax the dominance of one grass species over another**
- **How to use Embark to dramatically reduce the need for trimming and/or edging**
- **How to use Embark to suppress seedhead development of Poa annua**

FREE Applicator Guide
Call 1-800-821-7925

For your complimentary copy of the 24-page PGR Applicator Guide, write or call us toll-free.

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EMBARK® LITE

FINE TURF REGULATOR

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Circle No. 124 on Reader Inquiry Card

same can be said for writing thank-you notes for referrals, time and advice.

Do you have a way—other than sales calls—of keeping in touch with your clients? Quarterly newsletters are becoming the rule rather than the exception in the landscape contracting, lawn care and even golf maintenance segments of the green industry. They can keep your organization in the minds of customers and inform them of new products or services, company achievements and more.

2) Examining your company's written materials may reveal areas that need to be strengthened.

Does your logo/letterhead/brochure package convey the image you want it to convey? Look at your material as a prospect would see it. Letterheads and brochures should be kept current, clean and progressive; image is crucial to success.

How effective is the written word? It should position your business in relation to the competition, tell what sets you apart. It should be rich in customer benefits and not steeped in features.

3) Make sure your trade association memberships support your marketing efforts. After all, you pay the dues.

Do you or key staff members regularly attend meetings to take advantage of networking opportunities? Should you modify your schedule to assure adequate representation?

Can you take better advantage of speaking opportunities at association meetings? Can your company or golf course act as host? Is it possible to contribute articles or columns to association publications?

4) Public relations—editorial coverage in your hometown newspaper, to be specific—gives your business a credibility that advertising cannot match.

Do you regularly announce employee promotions or honors to local newspapers? Do you publicize company honors, special high-visibility jobs? If your company actively supports significant social/community endeavors like the Chamber of Commerce, how effective is the coverage you receive?

The importance of planning cannot be overstated. Effective marketing efforts are both carefully planned and consistently implemented.

—The author is president of Adrienne Zoble Associates in Somerville, N.J. and author of "The Do-Able Marketing Plan: Business Survival & Growth for the '90s." The workbook is available through her office by calling (908) 685-8008.

Planning strategies for the green industry companies

If you are bracing for an improved performance in 1992, a budget needs to be developed during these winter months.

by E.T.Wandtke

■ It's not uncommon in the lawn and landscape industries for owners to avoid the rigors of budget-making and budget-following.

As these owners look into 1992, they often say the economy will be better and their businesses will benefit accordingly.

If this is how you are looking at the performance of your company, you should start planning more.

What to plan—Here are types of plans you should be making:

● Your business plan should be prepared before you start the business. Annual updates thereafter are essential.

The business plan details why you are in business, what type of services you intend to offer, and your target market. It should include projections of future financial performance, and the persons you have enlisted to do the job.

Banks want to know this kind of information, as it identifies when times of potential stress (or periods of financial need) will occur in the life of your company.

● Your marketing plan—a key component of the business plan—needs to be revised and specified annually, usually three to six months prior to the start of your next business year.

Developing a marketing plan may reveal how little you know about the market. Assumptions and beliefs are easy to come by, but facts and reliable information are not found as easily.

Other components of the marketing plan deal with competition, potential niche opportunities, and the market's economic outlook.

● Strategic plans usually cover a five-year period, and are updated each year, two to three months prior to budgeting. A strategic plan defines the strategy you will follow to achieve your five-year objective.

● The budget, which covers a 12-month period, is prepared two to three months prior to the upcoming business year.

The budget details what the company's financial performance is expected to be for each month of the year. Budget preparation takes time; you must examine the prior year's activity, and predict what you think will happen next year.

A budget needs to be developed during the winter months. Some companies dedicate one week of their winter season to budgeting. This is an ideal way of letting all of the employees in your company know the importance of planning.

● Your management plan, or people plan, is developed as part of the business plan and is updated on an annual basis.

Individual strengths and weaknesses of key employees are examined, as a way of defining the type of person who works best in the company. Accomplishments of key employees serve as the basic background

Preparing a budget

A budget is most easily prepared when the following items are listed:

1) Services to be performed, and number of customers per month.

2) Materials to be used.

3) Labor costs, including expected raises, projected overtime, bonuses and incentives, and the cost of fringe benefits.

4) Operating costs, including vehicles, equipment, maintenance and repair, fuel and oil, and other equipment operating expenses.

5) Administrative or fixed expenses are budgeted, since they tend not to vary much from year to year unless a change occurs in the company's operation.

6) Other direct expenses, such as safety costs or license fees are planned based on when they will hit over the course of the year.

—E.T.W.

To the floating deck Crew King,™ this is a walk in the park.

- *Available in 36" and 48" cutting widths.*
- *Fixed deck units also available.*
- *Heavy duty 10 gauge decks with 7 gauge skirts.*
- *Rigid bumper system on fixed deck units.*
- *Powerful, 14 HP Kohler overhead valve, 4 cycle engine on floating deck models.*
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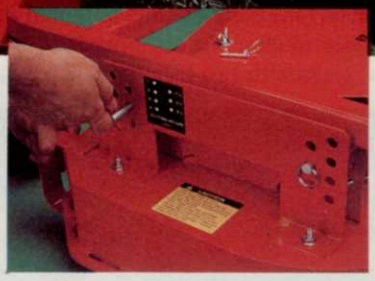
- *Long life, smooth casters for less turf marking.*
- *Double-A drive belts for better traction.*
- *Neutral starting safety controls.*
- *Floating decks have wide reinforcing bar on deck perimeter for strength and to prevent turf gouging.*
- *48" deck model has a center anti-scalp roller and skids for added turf protection.*



Smooth out your tough jobs with the new 36″ and 48″ Crew Kings.

For a better quality cut, a floating deck is suspended from the carrier frame, allowing the Crew King to follow ground contours closely and prevent scalping and blade damage.

For better productivity, the new Crew Kings are packed with time-saving features. Quick change cutting height adjustment requires little effort and no tools. Just pull a few pins, set the cutting height and continue.

Five forward speeds accommodate a wide variety of mowing conditions. Reverse gear makes access to tight areas easier, including trailer unloading. And a zero turning radius at the wheel provides excellent maneuverability without scuffing turf.

Crew Kings also have proven-tough Jacobsen decks, built to take the hard knocks of everyday work.

The new Jacobsen Crew Kings help turn any day into a walk in the park.

See your Jacobsen Commercial Products dealer today for a demonstration.

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Come see us at Booth #825 at the Green Industry Expo

for the owner to present to the banker and others advising the company. These advisors will look at the information to evaluate your future potential based on the accomplishments of the goals detailed in your strategic plan.

When to plan—Timing helps considerably in the financial success of your company. Most companies in the green industry need to start their strategic planning in the summer months (June to September) in order to have time to agree on all aspects of the plan. Once a strategic plan is developed, only selected components will require adjustment over the next five years.

Slowdown or acceleration in the realization of the plan, competitive changes, or other economic variables need to be reflected in the newly revised plan.

How to budget—It's tough to break a budget down into its component parts. Not all aspects of budget development can be prepared without first completing the marketing plan and the strategic plan.

Sales plans are detailed into sales per month, type of sale, pricing structure to be followed, number of customers anticipated to be sold, advertising to be undertaken, expected results of the various advertising efforts, and promotional money to be spent, including the results of their expenditure.

Once the sales plan is completed, you will need to develop an operating budget. (See list on preceding page.)

—The author is a principle in Wandtke & Associates, a management and marketing consulting firm based in Columbus, Ohio. For more info, call (800) 966-3546

The bright side of night mowing

To keep golfers moving along the course during the day, one now-famous course has begun to mow at night. Here's how it's done.

■ Coeur d'Alene Golf Course has implemented night mowing. It can work on golf courses and even on commercial contracting jobs.

Superintendent Dan Moore at Coeur d'Alene Golf Course in the tourist mecca of northern Idaho solved a difficult problem with a logical answer.

Question: How to schedule mowing so crews don't compete with the deluge of tourist-type golfers who frequent the course? Answer: mow at night.

Moore's first concern was lighting the course for trim work. It took two months of experimentation with various lights to find the best floods. Eventually, Moore and his crew devised a hardhat mounted with a high-powered floodlight that lights up to 20 feet. The same lights with a 21-pound battery are now mounted on all the self-propelled rotary mowers.

"Our guys get a real workout," says Moore.

Similarly, it took considerable effort to find out Ford tractor lights worked best for night mowing because they throw a wide, even beam as well as use low amperes.

The maintenance scenario goes something like this: the last tee time is 4 p.m. to allow the maintenance crew to start mowing at 5:30 p.m. Two crews per hole start their carefully choreographed mowing rounds which manicure one-half of the 18-hole course each night.

Toro 223 mowers pull specially-designed carts with hydraulic lifts. This way, mowers can collect tons of clippings before they have to dump their loads.

The sprinklers, with their on-site weather station, fire into gear minutes after the mowers are finished.

The maintenance crew finishes well before the first golfers tee off in the morning.

The resort uses two Toro 223s to mow the bentgrass fairways, three Toro 216s and two 450-D five-gang mowers to groom the bluegrass roughs. The eight-member hand crew works with two Flymos, four regular rotary mowers and four Redmax reciprocating head trimmers to tend the greens, tees and 4.5 miles of concrete cart paths.

"The biggest hurdle is trying to manicure such massive acreage," says director of golf Mike DeLong. One hundred-twenty of the 150 acres is neat as a formal garden. "The message is that anything is possible, but it takes manpower and equipment."

During the day, one crew keeps the cart paths clean. Another edges nine holes, while a third crew's sole function is to pluck petals off the 25,000 geraniums on the course and resort grounds.

In addition to the geraniums, the course has 46,000 petunias, 3,000 pansies, 25,000 junipers and thousands of Austrian pines. Geraniums are hand-watered with a flood nozzle to prevent blasting delicate petals off the plants.

"The owner (resort magnate Duane Hagadone) is striving to be the best, and wants the golf course to be just as good," says DeLong.

—Leslee Jacquette
—The author is a freelance writer based in Edmonds, Wash.

Director of golf Mike DeLong (left) and superintendent Dan Moore initiated the concept of night mowing at Coeur d'Alene Golf Course to cater to tourists.

Here's proof that Typar Pro Landscape Fabric is easier to install.

We cut this piece of Typar® Pro Landscape Fabric to show what you can't do with the others.

Like cut quick slits for plants to pass through. Or fast curves that follow landscaped contours.

Typar is easily cut, lightweight and less bulky. So it's faster and cheaper for you to install.

And it's surprisingly tougher. With rugged polypropylene fibers that resist tearing, even under stones, gravel, patios and sidewalks. Typar is also porous, so air, water and nutrients can pass right through. Your landscaping projects look healthy as well as handsome.

So save time and labor while you control weeds, drainage, soil erosion, and heaving of walks and patios.

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And start cutting corners the easy way.

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TECH CENTER

Responding to the drought

Here's how to make the drought of 1991, now a mere memory, pay handsomely.

by Jeff Lefton, Ph.D., Purdue University

■ The drought of 1991 is history, but in many parts of the country its aftermath still brings opportunities. Listed below are tips to help maximize customer satisfaction during the months ahead.

● Make customer contact during the winter via letter or phone call. The highest cancel group will be the customers in the two-year-or-less group. Make phone contact with these customers, asking them about their upcoming needs for the spring. This should be a proactive experience.

● Lawns with less than 50 percent turf are prime candidates for dormant seeding. This can be started when the soil temperatures drop to 40 degrees or below. Use a customer leave-behind to explain that the seed will not germinate until late spring. Weed control should not be used until the new seedings are well established.

● An early winter fertilization coupled with a middle- to late-fall fertilization will help thicken lawns. For maximum effect, it should be applied before the turf browns in the early winter.

● Consider starting the early spring production with a granular fertilizer. This will give seedings a boost. In addition, a three-year study at Purdue University has demonstrated that a standard amine salt formulation of a broadleaf herbicide will not show acceptable weed control until late spring. In this same study, the ester formulation was effective about two weeks earlier.

● Use a standard three-way broadleaf herbicide on established turf that has not been seeded. A research study at Michigan State University showed acceptable weed control in East Lansing through mid-November. This might be important in some areas to help reduce the winter annual (common chickweed and henbit) populations.

● Consider a soil testing service in the early spring. This could include the garden area, ornamental beds or the lawn itself. Identify a good soil test lab and use its expertise in setting up this program.

● Deep root fertilization and pruning are services that should be made available to landscape customers.

● Attend as many technical meetings as possible during the winter. Take all of your employees. After the training session, have a branch meeting and ask, "What did we learn that can make us better?"

Remember that the customer buys your service for two reasons: (1) to feel better about his or her property, and (2) to get solutions to problems. During the months ahead, ask your employees to target their thinking on these factors. Make 1992 a proactive, successful year.

Xeriscaping: Is it the answer?

The seasonal droughts of recent years have focused the public's eye on water-saving landscapes employing xeriscaping techniques.

by Dr. Eliot C. Roberts

■ Town ordinances are being considered in most all parts of the country that would force developers to use xeriscaping techniques when they construct new homes and other structures.

Xeriscaping is a landscaping approach

Continued on page 34

ELSEWHERE

IPM or PHC? same care, p. 34

Post-emergence crabgrass control, p. 36

Spray on new Confront* herbicide and within a week your fairways, lawns or parks will be clover free. In fact, a little Confront goes a long way toward giving you outstanding control of clover and other broadleaf weeds. And it does it without 2,4-D or dicamba.

For a free Confront herbicide product label and brochure, call **1-800-729-3693, ext. 3132.**

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This Time, We Did Competition, We Out

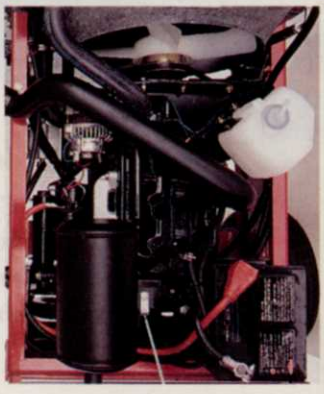
To make a dramatic turnaround in your productivity, put yourself behind the wheel of the machine that outmaneuvered them all: The new Groundsmaster® 220-D or the new gas-powered 224 from Toro. No other out-front rotary mowers are as maneuverable, as effortless to operate or provide as much trim productivity.

Fourlink power steering is your link to unmatched maneuverability. Now operators can make sharper, easier turns with less fatigue. This makes trimming around any obstacle quick and almost effortless.

To give you even more cutting control, Groundsmasters feature a single knob deck-to-tractor weight transfer system. A twist of the wrist is all it takes to balance cutting unit flotation to height of cut and traction needs. The result is better traction and better flotation without scalping.

When it comes to engine size, Toro gives you the power of choice. The new Groundsmaster 220-D features a 20 hp liquid-cooled, 3-cylinder Mitsubishi diesel engine. The new Groundsmaster 224 gives you the same engine in a gas model, providing you with the durability diesels are known for, but with more power. Both give you all the speed and power needed for the most demanding jobs.

The Groundsmaster 220 also is available with a 20 hp air-cooled gas engine.



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h't Overpower The maneuvered Them.

A small, compact wheelbase provides a small uncut trim circle and tight turn-around enabling you to trim close around any obstacle. Just what you need to get into or out of tight areas.

With all these performance features, it's obvious why the new Groundsmaster 220-D and 224 are so popular. And why Toro is the leader in out-front riding rotary mowers. To request a demonstration, call your local Toro distributor or contact Toro at the address below.

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The Professionals That Keep You Cutting.

A patented, heavy-duty carrier frame with floating cutting decks allow the cutting units to follow ground contours for a superb quality of cut. For added cutting control, there are three decks to choose from: 72", 62" or 52". And the 52" is available with an optional grass collection system.

The Toro Company, Commercial Marketing Services, 8111 Lyndale Ave. So., Minneapolis, MN 55420.

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Xeriscaping Arizona: A beautiful setting and the ultimate in low water use landscapes.

that conserves water by planting native or drought-resistant species.

All plants need water for survival and growth, even the cactus found in the desert. But some require a lot more than others. Some plants, such as grasses, require more water but they cover the ground with sufficiently tight vegetative cover to cut back on loss of soil water by evaporation.

Dr. Eliot Roberts: All plants need water.

Lawngrasses are particularly effective in this way; a low-cut canopy of green foliage not only maintains a highly humid environment above the soil surface, it also creates conditions which enhance rainfall infiltration into the soil and reduce run-off.

This may not be of critical importance in areas of limited rainfall, but it is very important in humid regions of the country. The cactus-and-gravel look may be ideal for the arid Southwest, but not for other parts of the country.

Generally, native plants—both woody and herbaceous—are better acclimated to local environments than introduced species.

One prairie grass, buffalograss (*Buchloe dactyloides*), has high drought tolerance and fair to good growth characteristics for a lawngrass. When used in arid and semi-arid locations, it produces better lawns without irrigation than any other grass.

But most lawngrasses used in the United States are not native. Even Kentucky bluegrass, which is now the dominant lawngrass in the cool humid region, is not native to Kentucky. The most drought-tolerant lawngrass for use in this region is tall fescue, not so much because it uses less moisture, but because its extensive root system permits it to use soil moisture more effectively.

In the warm, humid South, bermudagrasses, St. Augustinegrasses, zoysiagrasses, centipedegrasses and bahiagrasses all have originated outside of this country. Bermudagrasses are generally more drought-tolerant than the others, but all do a reasonably good job in landscape situations.

Ed Davis of Okeechobee, Fla., has considered xeriscape from the perspective of a sod producer and has concluded:

"The turf industry supports the wise use of water in the landscape. We also continue to support the need for practical turf areas. The term 'practical turf area' is a replacement for the negative term of 'limited turf' found in early xeriscape material.

"An example of a non-practical turf area would be the narrow strip of turf found along the side of a parking lot, road or building. Islands of turf in the parking areas are also a non-practical use of turf. These areas consume large amounts of water and labor. The mounds that are so popular in the landscape design today are also an example of non-practical turf usage.

"There must be a balance of practical turf areas, plant areas and impervious surfaces in the landscape. Xeriscape, if it accomplishes nothing else, will focus attention on this balance."

—The author is director of The Lawn Institute in Pleasant Hill, Tenn.

IPM or PHC? Same care, different names

Soaps, oils and biologicals are combined with plant selection and spray techniques for tree/turf pest control at the Davey Tree Co.

■ The Davey Tree Company continues to make progress in its efforts to eliminate company-wide pesticide use by 95 percent over the next four years, says Dr. Roger Funk, Davey's director of research.

The gradual reduction in chemical use is one facet of the Kent, Ohio, company's "Plant Health Care" program, begun in the late seventies. Funk thinks the term Plant Health Care will soon replace Integrated Pest Management as a more practical description of what it is horticulturists and turf managers do. Funk also believes the term, "health care" is more acceptable to today's society than "pest management."

● Plant selection is the first step in tree/turf health care: If a plant is not truly adapted to a site, no amount of maintenance will make it healthy.

● Funk reports that Davey will begin widespread use of the biological control, B.t. (*Bacillus thuringiensis*) for gypsy moth and lepidoptera control on trees in 1992.

"After several years of research and field testing," reports Funk, "we find that the newest B.t., the 4A formulation, is satisfactory if you catch the lepidopterous insect in the early stages."

Davey has also been testing the M1 B.t. strain for elm leaf beetle larvae. Results have been good, but Funk cautions that the timing must be "exactly right."

● Milky spore for turf is more successful in the transition zone; the company notes poor results in the Midwest and East.

● Horticultural soaps and oils for tree care are also being tried and tested more than before, says Funk.

"Generally, oil does a better job on mites than soaps, and soaps do a better job than oil on aphids," says Funk. Company

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research continues to determine whether the newer oils can be used during the summer leaf stage. The company has already used oils successfully during the fall, when a larger window of time exists.

"However," adds Funk, "the plants are in a more sensitive stage then, so you have to wait until they become fully dormant, as the oils will delay dormancy."

According to Funk, Davey Tree will begin using oils on a limited basis in the summer of 1992, at a two percent rate. Funk cautions other companies that re-application of oils during the summer can be harmful to trees. "We also don't know if you can apply oils to the same plant in the same year."

Other Davey research findings:

- Vegetable oils (corn, soybean): Funk says research testing of these oils has shown 40 percent control of soft-bodied, sucking insects.
- Citric oil: Has pesticide properties, but high control rates also cause injury to the plant.
- Nemoil: Quality control problems during the extraction process not yet eliminated; has potential.
- Predator insects: The problem is keeping them within the targeted area.
- Funk also looks for Murphy's Oil Soap to receive EPA registration for tree insect control in 1992.

Dr. Roger Funk: Modifying spraying equipment to reduce odor, noise and drift will be the 'salvation of the tree care industry.'

- In company turf research, oils and soaps have shown ability to control all of the common turf insects.

Selective applications are based on refinements in post-pest timing charts, and might be more accurately applied by looking at temperatures and blooming time.

- Applicator education and training: In the past, the manager made the decision to apply control products from his office. Look for applicators to become more responsible in making decisions based on identification of tree, pest and predator insects.

In developing new spray techniques, Davey wants to address what Funk calls the three "triggers" of neighbor complaints: odor, drift and noise. Solutions include:

- Downsizing equipment to suit tree size.
- Odor-masking solutions: one product, called Maskit, will hide the odor of Orthene, in a 3.3-ounce:100-gallon ratio.
- A company-designed turf sprayer with two lines, dispensing fertilizer or pesticide in amounts as small as 4 ml.

—Terry McIver

Post-emergence results are very impressive

Crabgrass control was at 100 percent for some compounds tested at Ohio State University.

■ Tests of late post-emergence herbicide efficacy show a 50 to 100 percent decline in crabgrass for some applications, according to Dr. John Street of Ohio State University.

In evaluations conducted last year at OSU, Street and field technician Jill Taylor documented late post-emergence herbicide efficacy on crabgrass. They presented their findings at the Ohio Turfgrass Foundation Field Day.

Herbicides were applied to crabgrass at the 4- to 6-tiller stages. Irrigation was withheld for two days after treatment.

The post-emergence area was verticut in two directions in mid-April and overseeded with one pound of crabgrass seed per 1,000 square feet. The stand was maintained at a mowing height of 1-3/4 inches and received an annual total of two pounds of nitrogen per 1,000 square feet. Irrigation was provided as needed to prevent wilt. Treatments were monitored for crabgrass percentage at periodic intervals after application.

"Acclaim has shown good efficacy for post-emergence crabgrass control," says Street. "However, some discoloration and stunting of Kentucky bluegrass occurs, and efficacy drops off dramatically under drought conditions.

"Impact (BASF 514) efficacy was good at the 0.125 and 0.25 ai/A rates. However, effectiveness was reduced some, and rate of activity was significantly reduced, with 50 percent crabgrass still present on September 6 (14 days after treatment)."

Impact's label rate is 0.50 ai/A, according to BASF.

Street called Impact's efficacy "excellent" at the 0.50 to 1.0 ai/A rates, and said 100 percent control was shown in two weeks' time.

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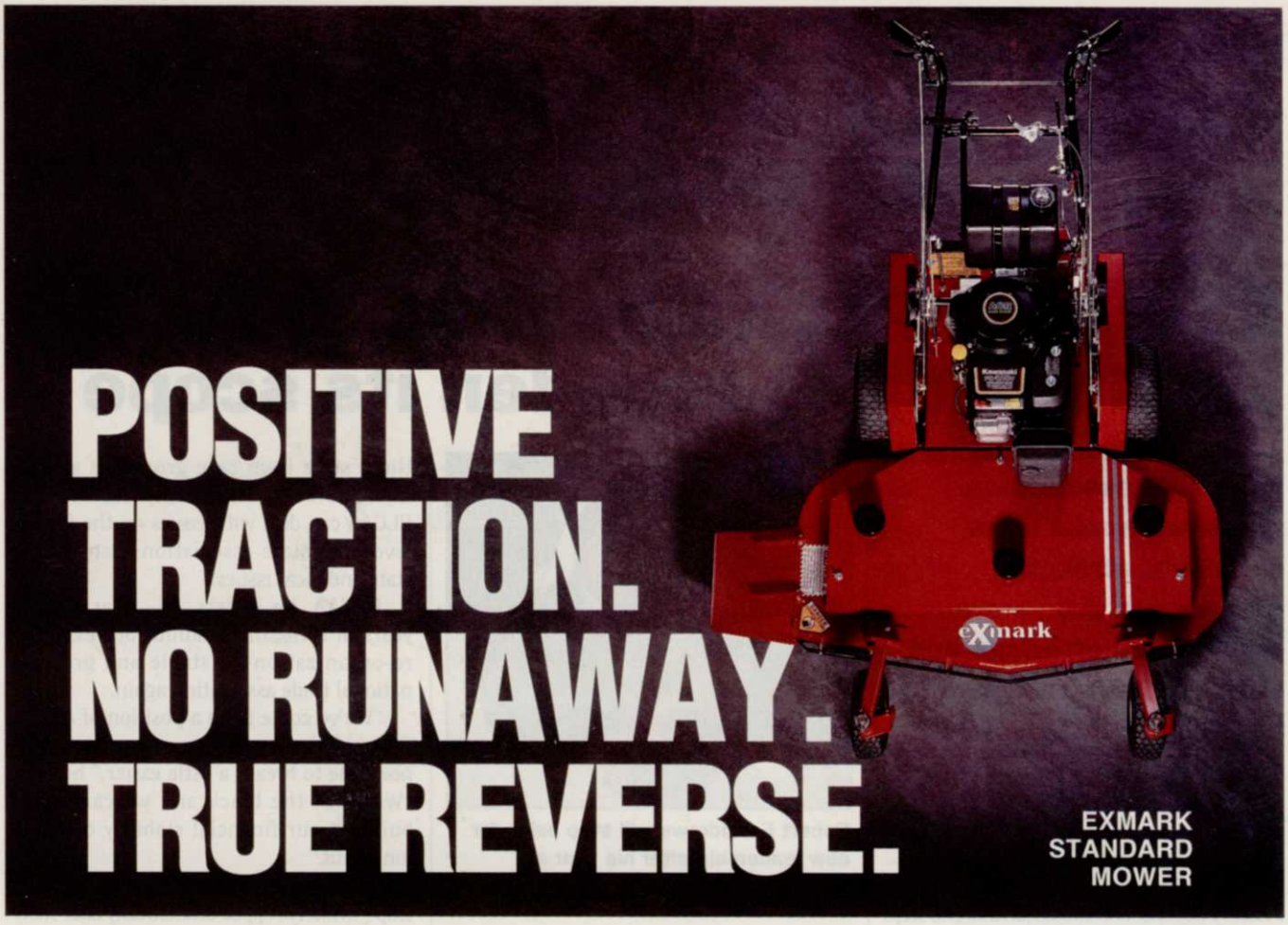

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LAWN CARE INDUSTRY

Andrews: PLCAA healthy, growing and looking to broaden its scope

In-coming association president seeks more members, stronger presence in D.C., more educational offerings and stronger links between PLCAA and state associations.

■ It's possible to describe Robert E. Andrews' philosophy in a single word: involvement.

Almost 20 years of involvement in green industry associations climax as Andrews steps in as the 1992 president of the Professional Lawn Care Association of America.

He brings to PLCAA's top post, colleagues agree, considerable and hard-earned talents as a facilitator and organizer, and more than a measure of persistence.

He's also coming into the post at a full gallop.

By late this summer he'd already developed committee assignments and by mid-fall conducted an exhaustive PLCAA strategic planning review. Next month he's conducting a workshop focusing on state association development.

Somewhere in the middle of all of this, Andrews, 45, sat down with LANDSCAPE MANAGEMENT to preview his 1992 PLCAA plans.

Andrews says he will seek:

● **More members.** Andrews says PLCAA must broaden its definition of the industry. "It's not that chemical lawn care is any more or less important, but our members and our potential members offer more diversified services now," he says. "We have to recognize there's a big, broad industry out there."

Beyond that, PLCAA must do a better job of "closing the sale." He said about 900 companies inquired about PLCAA membership through September but only about 90 joined.

Robert E. Andrews will step aside for new leadership after his year as PLCAA president is over.

● **Stronger federal issues support.** The push to increase the lawn care industry's presence in Washington D.C. began this past spring when about 10 of the PLCAA's largest members contributed money (in some instances manpower) in response to the 1991 Senate "victim hearings." PLCAA set up a separate issues management fund and agreed to serve as umbrella organization for the effort. Andrews says PLCAA will intensify its efforts to get more member companies contributing to the fund, and offering in-person support.

● **More training and education.** "We've got to get back into the business of offering on-going education for our members, particularly technical education," says Andrews. "At some point we've got to bring someone back onto our staff that's technically oriented."

● **PLCAA/state association alliance.** "I'm really pleased to see PLCAA recognize these state lawn care groups as allies," says Andrews. "They both have to exist. PLCAA can deal with issues on the federal level, the state associations can handle state and local issues."

PLCAA, he insists, is—after several years of sometimes painful but essential re-organization—a stable and growing national trade association again.

"We've come from a position of almost financial desperation to one where we're now able to breath a little easier," he says. "We're in the black and we can begin building our financial stability over the long haul."

Also, he points out, PLCAA membership—which dropped dramatically after hefty 1989 dues increases—is climbing again.

These two inter-related events (financial health and more members) couldn't take place, explains Andrews, if PLCAA's officers and board of directors hadn't made difficult decisions the past two years; first, overhauling PLCAA's staff (and staff expenses) and second, reducing dues for smaller, independent lawn care companies.

Equally encouraging, believes Andrews, is the long-term agreement PLCAA worked out with the the Associated Landscape Contractors of America and the Professional Grounds Management Society concerning the Green Industry Expo (GIE).

"Having our three associations together for an annual exposition is good for all of our members, good for our suppliers and, ultimately, good for the entire green industry," says Andrews, PLCAA's negotiator in the 11th-hour agreement reached this past spring in Cleveland.

That meeting outlined the involvement of the three trade associations in GIE into the mid-1990s.

—Ron Hall

INSIDE

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Posting, notification key topics in lawn care industry spotlight

■ Posting and notification are the pesticide issues that communities are focusing on after June's U.S. Supreme Court ruling.
And, yes, they're making their own rules, as this series of articles about various communities throughout the nation shows.

Lawn pros seeing red over large, pink lawn posting signs

Too late to halt local laws, LCOs take up costly fight over restrictive requirements and get initial favorable ruling.

■ Once a local board drafts and puts pesticide laws on the books, it will fight to keep them there.

That's what the green industry is finding out.

ChemLawn of Easton (Mass.), TruGreen of Warwick (R.I.), Tuckahoe, and The Lawn Co., Inc., are defendants in a lawsuit filed by the Mansfield (Mass.) Board of Health. The suit alleges the companies disobeyed town pesticide laws early this past summer. It seeks a total of $16,000 in fines from the companies.

The four, as a group, had been contesting the town's regulations.

Now, as a group, they're contesting its suit.

The five-member Mansfield Board of Health passed the regulations last February. Mansfield is a small city just off I-95, closer to Providence, R.I., than to Boston.

By the time lawn care companies reacted, and came in person to seek a compromise, the health board's resolve had hardened.

Emboldened by a June U.S. Supreme Court decision, the board soon thereafter scouted for, and found, victims.

"Apparently someone went around one day and determined we weren't complying with their laws," Ed McGuire, president, The Lawn Co., Inc., tells LANDSCAPE MANAGEMENT.

A town official seemingly took company names from lawn flags—the ones required by *state* law—and cited the companies for not posting pink (that's right, pink) 8-by-11-inch signs that regulations mandate.

Other provisions of the Mansfield "Turf Care and Plant Regulator Applicators" regulation:

McGuire: we weren't compliying

- Companies applying a turf pesticide or plant growth regulator within Mansfield must obtain a certificate of registration from the health board each year. The fee is $100.
- The names of all products used as turf pesticides and plant growth regulators must be filed, with appropriate labels and MSDSs, with the board.
- All pesticide spills must be reported immediately to the board.
- All lawn service vehicles must carry storm drain protective covers and 100 pounds of granular absorbent.
- All applicators must be licensed. The license shall be surrendered for inspection upon request of the board or its agent. Failure to comply may be cause for revocation of the registration certificate.
- There's a $500 per violation per day penalty for violations in posting, product registration, and for failure to report spills.

In late August Superior Court Judge John Xifaras denied the health board's preliminary request to force the companies to comply with the laws.

"Any local regulation which imposes additional or inconsistent conditions or requirements on the use of pesticides beyond those established by state law must fail," wrote Judge Xifaras.

He said the Mansfield law "frustrates" the purpose of having standard signs as required by state law. These signs, he said, are recognizable by the public.

But the Xifaras decision represents, at best, a dubious victory for the applicators. Even if the lawn care firms win the lawsuit, they will have spent thousands of dollars in legal fees.

Meanwhile, the Mansfield health board continues to spend taxpayers' money in legal fees over concerns already debated and decided upon by the State of Massachusetts. That's the green industry's position anyway.

—Ron Hall

Farm, green industry unit for Indiana pre-emption law

Industry fears too many masters; weakening of state's regulatory framework if towns meddle with pesticide laws.

■ It's no easy matter telling a city councilman or county commissioner to butt out of the pesticide legislation picture.

There's some question now—in light of the U.S. Supreme Court ruling last June in Mortier v. Town of Casey—that you even can. Or should.

"It's very difficult to tell people that their local elected officials don't have a say over certain things," admits Robert Andrews, owner of a lawn care company in Carmel, Ind. "After all, they are elected to represent their constituents' best interests."

But Andrews isn't the only business person or farmer in Indiana skittish about local legislators telling them what chemicals they can use and how they can use them.

Indiana, like most states, doesn't specifically forbid local political bodies from making their own pesticide laws.

Indiana does now, however, have a

coalition (green industry, pest control, agriculture) that wants to change that.

In fact, only Pennsylvania, West Virginia, Minnesota and Louisiana specifically address the question of smaller political bodies within their boundaries making pesticide law, apart from federal and state regulations. Generally speaking, towns, counties, etc. within these states cannot (the lines get kind of fuzzy on some issues) enact separate pesticide legislation.

Elsewhere, including Indiana, any local government seemingly can appoint itself as a pesticide regulator.

Andrews, in-coming president of the Professional Lawn Care Association of America, is one voice in this coalition seeking to convince Indiana legislators to pass a state law to keep local governments from becoming pesticide "policemen."

Adds Steve Biggers, golf course superintendent at Highland Country Club, Indianapolis: "We don't need over-reaction by any communities to pesticides. Nobody's going to benefit from communities passing pesticide laws in knee-jerk fashion."

The coalition, meeting twice by late summer, is moving deliberately. Still, it hopes to line up legislative sponsors by year's end and bring the matter before state lawmakers early in 1992.

Andrews' application company, The Greenskeeper, operates in six central Indiana counties. He says a proliferation of local pesticide laws would be "disastrous."

An explosion of communities with different pesticide use laws could even threaten Indiana's present statewide regulatory system, a system Andrews describes as knowledgeable and progressive.

Indeed, representatives from the Office of the Indiana State Chemists have attended coalition meetings.

"They've invited us and included us in their meetings because we're the people who regulate pesticide use," says Dave Scott, a pesticide regulator based at Purdue University. "They obviously want to know what our position is in respect to pesticide laws."

Apart from convincing state lawmakers that the local meddling in pesticide laws is not wise, coalition members seek to convince government officials (and the public) that, as professional applicators, they're taking steps to safeguard the public.

Many lawn and landscape firms began posting chemical applications before the matter even became an issue in their communities.

And now, posting, it seems, is becoming commonplace on golf courses within Indiana, too.

Members of each of the state's four golf course superintendents associations support a plan to post on the 1st and 10th tees on days when chemicals are used on their courses. Also, a sign in each pro shop will advise golfers that they can obtain information concerning chemical use on the course from the course superintendent.

Although Indiana's coalition is broad based and includes support from Indiana's strong agricultural lobby, members are uncertain just how much the state will restrict local pesticide regulation—if at all.

"There are two ways to approach preemption," says Andrews. "The state can outlaw local political bodies from legislating pesticide regulations. Or it can permit them to, but only with guidance from the lead regulatory agency in the state."

Adds Biggers, "we don't think it's realistic that we're going to get total preemption."

—Ron Hall

Compromise: the key in New Jersey

Try to influence local legislators at an early stage, rather than after the fact.

■ This past summer, one of David Sandler's Lawn-A-Mat customers told him of the borough's plans to toughen up the notification requirements in Fair Lawn, N.J. Sandler acted fast.

"I contacted the borough leaders and let them know I wanted to be apprised of the developments.

"Initially," recalls Sandler, "they would not give us any information, but they released information to the newspapers. Rumors and mis-information followed, but they wouldn't let (applicators) in on what was happening."

Sandler persisted, and soon he and two other landscapers were able to arrange a meeting with borough officials.

Sandler: rumors run rampant

"Initially," Sandler recalls, "the borough had wanted 100 percent pre-notification of everyone within 800 feet."

"We let our side be heard, and we kept the discourse on a civil level, even though we thought it was kind of insane. Over the course of about a year, we met three or four times in group sessions, phone calls. Ultimately, the ordinance that was adopted was one we could live with."

Ultimately, says Sandler, ordinances become anti-competitive.

"Dealing with a patchquilt of local regulations is a nightmare we anticipate, though I think New Jersey has a statute which would encourage them to follow state guidelines."

As a responsible businessman, Sandler rolls with the punches.

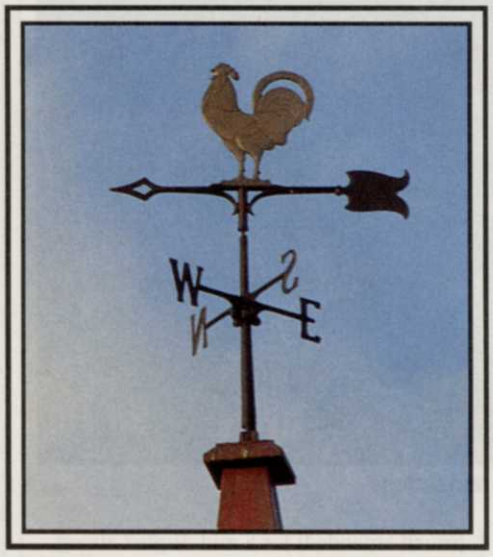
"People are being affected by something they didn't want or need, regardless of what we consider the risk," says Sandler, who thinks neighbors are entitled to be pre-notified and are entitled to reasonable protection so that they won't be exposed.

Sandler advises company managers to stay informed. At the first hint of legislative activity, establish contact with the legislators, and let them know you'd like to be kept abreast of legislative developments.

Such activity represents a time commitment, "even though it means that after a 12-hour day you go to a work session with the borough officials in the evening," admits Sandler. "Someone has to make the effort to go to one of those work sessions, if you want to have any influence on the ultimate legislation.

"You're better off to have an influence at an early stage than to try to deal with it after the fact," Sandler advises. "If you stick your head in the sand, (the ordinance) is not going to disappear."

—Terry McIver



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Missoula, Mont. kicks around pesticide regulations

Pesticide issue on Missoula ballot

Will the homeowners in this western Montana mountain city approve a pesticide posting law...for themselves?

■ Uhm, should we build a new baseball park?

Or should we make lawn care companies—anybody, in fact, who applies pesticides to more than 50 square feet of property at one time—post 80-square-inch yellow or orange warning signs?

These are the two questions voters of Missoula, Mont., decide this month.

If you're betting the $3.5 million baseball bond issue generated more debate and controversy—bingo, you win!

"The fact that the city council decided to put baseball on the ballot went on the front page," says Don Baty, local government reporter for *The Missoulian*. "The pesticide ordinance story, I think, went on page 3."

Not that the pesticide posting proposal hadn't been kicked around city council chambers long enough: it had. It fermented in council's Conservation Committee for almost a year before being hauled out (much amended) for a mid-August airing.

When council deadlocked 6-6 on the proposed ordinance, Mayor Daniel Kemmis, rather than cast the crucial vote, asked the people of Missoula to decide—while they're voting on the bond issue for a ballpark which, some townsfolk hope, will attract a minor league baseball team.

At various committee and public hearings, posting advocates and industry representatives (primarily lawn care representatives) debated the pesticide posting issue.

"The hearings were pretty well attended, but there weren't any overflow crowds either," Baty tells LANDSCAPE MANAGEMENT.

The ordinance finally emerging for the ballot would, if passed, require *anybody* applying pesticides to 50 square feet or more of property within the city to post signs 24 hours prior to the application and remove them 48 hours after.

Spot spraying (less than 50 square feet) and emergency spraying need not be posted, according to the ordinance.

Greg Amsden, a spokesman for Mont PIRG (Public Interest Research Group), defends the size and color of the signs. He says they should be recognizable by children and contain a "Mr. Yuck" caricature on them along with appropriate warning language.

Mont PIRG is an advocacy organization at the University of Montana directed by elected student representatives. Mont PIRG maintains a professional staff.

Most of the burden for posting, assuming the ordinance passes, is the homeowner's, says Amsden, adding that posting proponents realized it would create a hardship for lawn application companies to visit each property 24 hours prior to an application.

Apart from the cost to applicators, Missoula is often windy in the spring and early summer when most pesticide applications take place and applicators sometimes don't know from day to day if they can spray.

"In the course of a year we've arrived at quite a few compromises, actually," Amsden says of the ordinance.

—Ron Hall

Citizens not happy about posting vote

■ Missoula (Mont.) homeowners don't want pesticide posting, not as it appears on the ballot, anyway.

A poll conducted by Sage Advertising, Helena, Mont., early in October showed almost 65 percent of the voters opposing it. Sage had been hired by the green industry to help defeat the issue appearing on the Nov. 5 ballot.

"I think we're going to win," says John Bass, a longtime Missoula LCO. "I think a lot of our support is coming from the city's lawn care customers."

Five weeks before the vote RISE (Responsible Industry for a Sound Environment) said it would help defeat the proposal. "RISE cannot fight all local ordinances, but we have chosen Missoula because it...can be used as a precedent in other areas," says Allen James, RISE executive director.

"A victory will indicate that the public does not want these restrictive regulations," adds James.

Bass says he doesn't necessarily oppose right-to-know. "But with these people (proposal supporters) that's just the beginning," he says, adding that anti-pesticide activists had already been successful in stopping the use of control products on the grounds at the University of Montana and in city parks.

He says RISE's help is allowing a local industry-based political action committee mount a citizen education campaign to offset anti-pesticide advertising.

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HOT TOPICS

Industry says that 2,4-D report is based on shoddy research

The health of dogs exposed to 2,4-D is the subject of a controversial report from the National Cancer Institute.

CLEVELAND—A report in the *Journal of the National Cancer Institute* associating the herbicide 2,4-D with cancer in dogs is being criticized as inconclusive and poorly researched.

The September report concludes that dogs whose owners use herbicides containing 2,4-D are up to twice as likely to develop malignant lymphoma.

The 2,4-D Task Force, a group that conducts health and safety studies, says that "the weakness of the study's conclusions needs to be considered against the backdrop of numerous other studies which have found no convincing evidence of a link between 2,4-D and cancer."

Tom Delaney, director of government affairs for the Professional Lawn Care Association (PLCAA), says 2,4-D is a worthwhile product:

"(2,4-D) is the most thoroughly tested product of its kind on the market today. It has been the subject of toxicological, epidemiological and mutagenicity studies on three continents...which should be reassuring to those who have come to value 2,4-D for its cost and reliability."

Delaney says the questionnaire did not provide dog owners a list of chemicals from which to choose: "They had to rely on the memory of the person interviewed."

Dog owners were questioned 10to 58 months after the animals were seen at veterinary hospitals. Also, some dogs that died from malignant lymphoma were never allowed access to yards and had owners who never used 2,4-D or a lawn care service.

Howard M. Hayes, the study's principal author, and his co-authors did note that applications of 2,4-D by do-it-yourselfers are "more likely to reflect the actual 2,4-D exposure opportunity...than the number of lawn treatments by commercial lawn care companies."

James W. Gillett, director of Cornell University's Institute for Comparitive and Environmental Toxicology, says the authors did not prove that 2,4-D is a carcinogen in dogs, or that lawn applications are related to any cancer in humans.

Dr. Wendell Mullison, one of the original developers of 2,4-D, says the evidence is circumstantial, and that epidemiologists usually do not consider any single study as proof of a cause and effect relationship.

Hayes and his co-authors admit that an absence of precise exposure data is "a major weakness" of the study, and say application frequency is the basis for their conclusions. The study was based on four 2,4-D applications per year. "The most it is applied," says Mullison, "is once in the spring and often again in the fall."

—Terry McIver

One vet's opinion

■ "I think there are some problems inherent in these types of epidemiological studies," says Dr. Robert Poppenga, DVM, of the American Board of Veterinary Toxicologists at Michigan State University.

Poppenga questions "the (homeowners') ability to recall details" regarding what chemicals were applied and when.

"I'm not certain that an owner would have information with regard to what chemical the company may be actually applying. I'm not sure where they got that data."

In a 1990 article on pets and lawn chemicals, Poppenga wrote that "it is important to establish whether the amount of chemical the animal may have been exposed to is near a range known to be associated with adverse health effects in the animal species."

"If used according to label directions and certain precautions are followed, nearly all commonly used lawn chemicals are safe around dogs and cats."

Today, Poppenga says that while the 2,4-D study, "may raise some legitimate concerns, it has to stand the test of time."

According to Poppenga, other studies need to be conducted before any blame is placed.

—T.M.

ELSEWHERE

NAA studies its typical wages page 46

Landfills good, writer responds page 46

Michigan sets new regulations page 48

Local notification on hold in Mass. page 50

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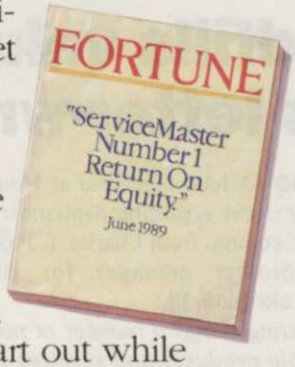

You can start out while still keeping your regular job if you wish.

For more information, call Bob Morris toll-free at 1-800-228-2814.

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Tree crew leader wages go up

AMHERST, N.H.—Wages for crew leaders increased from an average of $11.25 per hour to $12.00 per hour this year at member companies, according to a National Arborist Association survey. That is a 6.67 percent increase over 1990 wages.

Median wages for climbers and ground persons pretty much remained at 1990 rates, however. The new survey indicates the national average for climber hourly pay is $9.95 and for ground persons is $7.50.

Wages in the Pacific were highest of any other region reporting, across the board: $12.50 for crew leaders, $11.50 for climbers and $8.00 for ground persons. Likewise, wages in the Southwest were lowest: $9.50, $6.75 and $4.85, respectively.

One hundred twenty-eight NAA member firms responded to the annual survey.

NAA wage survey

	Crew Leaders	Tree Climbers	Ground Persons
National	$12.00	$9.95	$7.50
Northeast	$12.50	$10.75	$8.00
Southeast	$9.88	$9.00	$6.50
Midwest	$12.00	$9.50	$7.00
Rocky Mtn.	$9.75	$8.75	$6.87
Southwest	$9.50	$6.75	$4.85
Pacific	$12.50	$11.50	$8.00

Source: National Arborist Assn.

Landfills valuable to the green industry? This letter-writer thinks they are, indeed

CLEVELAND—A letter received at LANDSCAPE MANAGEMENT regarding September's "As I See It" column from Charles T. Pick, national project manager for DK Recycling, Lake Bluff, Ill.:

"Composting brings a number of new and valuable products and services to local landscapers, and composting sites themselves can offer considerable savings to area dumpers.

● *"I find it difficult to believe that (a landscaper mentioned in the editorial) has suffered a 350 percent increase in landscape waste tipping fees. Even in Illinois, where yard waste was banned from landfills in July of 1990, yard waste tipping fees are generally at or below regular solid waste tipping fees. Furthermore, the numerous composting sites that have emerged over the last 18 months offer more convenient locations than previously available, cutting haulers' transportation costs considerably.*

"It is highly unlikely that landfills or composting sites are currently charging 350 percent more for leaves and grass than they are for regular solid waste. Indeed, we have seen tipping fees increase by several hundred percent, but over the course of several decades.

● *"Small companies do not need 10 acres to compost. My company handles the yard waste from over 100 maintenance companies and three municipalities on only seven acres. Roughly 4,000 cubic yards of waste per year could be easily composted on half an acre. A small company can contract a grinding contractor to process brush from time to time, and a tractor or skid-steer loader could easily manage the composting material on a site of this size.*

'Small companies can save money by composting in-house.'

"Small companies can save money by composting in-house, not to mention the value of having a constant supply of mulch and soil amendment to reduce or eliminate bark, mushroom compost, and peat moss purchases.

● *"Incineration of yard wastes is not a viable option either. Have you ever tried to burn a pile of grass or plant material with an 80 percent moisture content? It doesn't work too well.*

"More composting sites are coming on line every day, and composting techniques are becoming more sophisticated. By December of 1993, businesses and cities will have a slew of conveniently located sites from which to choose, and lots of beautiful compost to use."

☞Editorialist Terry McIver says the comment that 10 acres are needed for a workable compost site was based on remarks made at a recent Cleveland symposium on yard waste. "Perhaps one of the speakers was describing a 'best case' scenario," McIver responds.

Bob Smart, of Yard Smart, Inc., contacted again by LANDSCAPE MANAGEMENT, says his tipping fees at a city site were $5/ton four years ago. Today, the fee is $50/ton. He pays more than $900/month at the site he now uses, from April to June.

"The impact of disposal fees on green industry companies may not be excessive, as you suggest," McIver continues. "Again, my comment was based on the rumblings of a room full of disgruntled landscapers and grass cutters who seemed to think the problem was very real."

McIver points out that Charles Baird (the author who provided the editorial's source material) says the U.S. has plenty of land—not including our precious national parks—which could be converted to landfill sites.

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Circle No. 101 on Reader Inquiry Card

Michigan readies new pesticide regs

LANSING, Mich.—Attention landscape and turf managers in Michigan. You'll probably work under a more comprehensive set of pesticide laws next season.

Public hearings on Regulation 637, the state's proposed new Pesticide Control Act, should begin by the end of 1991. The state legislature could vote on the measure early in 1992.

Some of the provisions in 637 that will affect professional pesticide users include:

- Registry of sensitive individuals. A Michigan resident will need a doctor's verification to get on the list. Each request will be reviewed by the Michigan Department of Agriculture toxicologist.

The Registry will be published annually and mailed to all licensed applicators. People on the list are to be pre-notified by a hand-delivered letter or by phone at least 24 hours in advance of an application.

- All professional applicators must have a system in place to contain any and all pesticide spills during loading, mixing and all water from washing operations.
- Commercial pesticide applications will be posted.
- Professional applicators will provide customers with a "risk/benefit" statement at the time of, or immediately after, applications. The Department of Agriculture is drafting model language.

Regulation 637 is the handiwork of a work group of pesticide user groups, activist organizations and government agencies. Tim Doppel, president of Atwood Lawncare, Inc. in Sterling Heights, was a member of the group.

He describes the proposed act as a "major overhaul of the pesticide control act in Michigan."

Complying with 637's pesticide mixing, loading and rinse water requirements will probably be the most costly for turf applicators, he believes.

Check for reputable designer

CHICAGO—Have you ever worked with a "golf course designer" who turned out to be totally unqualified to design anything?

Next time, says Michael Bonallack, check to see if the person is a member of a reputable, professional association.

"Many people have set themselves up as golf course architects without any form of qualification, apart from—in some cases—having been good golfers," says Bonallack, secretary of the Golf Club of St. Andrews, Scotland.

Bonallack is the 1991 recipient of the Donald Ross Award, presented annually by the American Society of Golf Course Architects.

Bonallack believes golf courses should be scenic, and not too difficult for the everyday player. The best courses, says Bonallack are those that make the player think.

"The distinctiveness of holes and courses is part of what makes golf great," says Bonallack. "Unlike other sports grounds, every golf course is different and has its own special attractions which can leave a lasting image on the mind."

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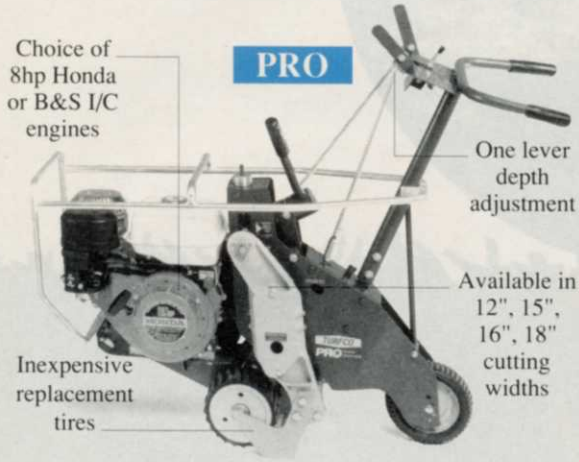
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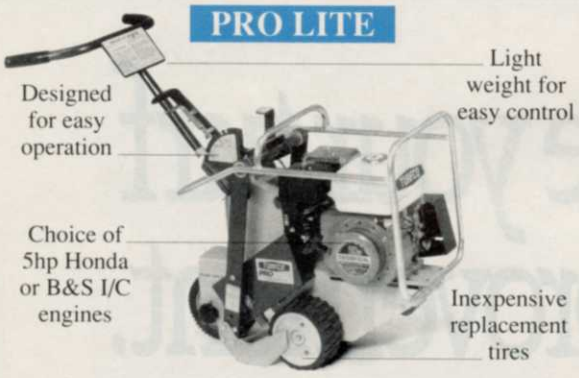
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Circle No. 135 on Reader Inquiry Card

Local notification on hold

AGAWAM, Mass.—In August, one of the town councilors in Agawam, Mass., proposed a law requiring lawn care companies to give three days notice prior to applying pesticides.

The notice, to be delivered via registered mail, would go to neighbors of the property being treated. It would list the chemicals to be used in the application.

The proposal exempts farmers and homeowners from any such requirements.

The councilor says the law is needed to allow homeowners to remove outdoor furniture and children's toys from sprayed areas.

The councilor's notification proposal hasn't generated much support from colleagues. The proposal is now in council's Ordinance Committee.

It's not likely the matter will be decided upon before year's end, LANDSCAPE MANAGEMENT was told.

Agawam, with a population 28,000, is a suburb of Springfield.

CUSTOMER SERVICE TIPS

by Ed Wandtke

■ Last month, effective listening ideas were presented to help the customer service person prepare for a customer's call.

This column will focus on speaking or responding to the customer during a phone call.

1. In responding to a customer, use correct industry nomenclature. This will emphasize that you know what you are talking about, and you will remain in charge of the call. Do not repeat incorrect terminology used by the customer.

2. Repeat phrases the customer speaks. This will help establish a confidence that you understand their concern and will be able to help them. If any confusion exists, this will allow the customer to correct your customer service person's mis-interpretation.

3. The tone of your voice is affected by how you sit in your chair when you are talking. Sitting upright will allow your voice to be clear, strong, and confident. Practice this on the next call you receive.

4. How do you sound to a customer? Are you friendly? Do you come across as a technical individual? Do you speak positively in responding to a customer? Check yourself out. Tape record the next six customer service calls and see how you sound.

5. Speaking at the same speed and with the same volume as the customer will help the customer feel you understand what they are talking about. This will help to avoid rude and abrasive reactions by the customer. When the customer service person is talking, be certain that they think before they speak rather than saying "uh" first.

All this takes practice. The more you evaluate and review the telephone practices of your customer service personnel, the better your company image. Effective telephone technique takes time and needs to be reviewed. Listen to what is being said on the phone and you will hear words which need to be improved upon.

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GREEN INDUSTRY

EVENTS

NOVEMBER

17-19: Southern Turfgrass Conference & Show, Memphis, Tenn. Contact: Carl Case, (615) 794-6689.

17-20: Landscape and Grounds Management Conference/Green Industry Expo, Tampa, Fla. Sponsored by ALCA, PGMS and PLCAA. ALCA members call: (703) 241-4004; PGMS members call: (301) 667-1833; PLCAA members call: (404) 977-5222.

19-20: Alaska Greenhouse & Nursery Conference/Polar Grower Trade Show, Fairbanks, Alaska. Contact: Cathy Wright, Alaska Div. of Agriculture, S.R. Box 7440, Palmer, AK 99645; (907) 745-4119.

19-20: Southern Grounds & Turf Maintenance Exhibition and Conference, Nov. 19-20, Myrtle Beach, S.C. Contact: (803) 737-9355.

21-22: South Carolina Urban Forestry Conference. Contact: Debbie Price or Steve Scott at S.C. Urban and Community Forestry Council, (803) 737-8800.

21-24: Landscape Maintenance Association Equipment Show and Conference, Tampa, Fla. Contact: Charles Bingaman, exec. dir. LMA, (813) 584-2312.

25: Water Efficient Landscape Symposium, Marriott Desert Springs Resort, Palm Springs, Calif. Contact: John Wohlmuth, City of Palm Desert, 73-510 Fred Waring Dr., Palm Desert, CA 92260; (619) 346-0611.

DECEMBER

2-4: New Jersey Turf Conference, Garden State Exhibit & Convention Center, Somerset, N.J. Contact: Bea Devine, (908) 821-7134.

2-5: Ohio Turfgrass Conference, Cincinnati. Contact: Phyllis Poureh, 2021 Coffey Road, OSU, Columbus, OH 43210; (614) 292-2601.

3-7: Sports Turf Managers Association Annual Conference, San Diego, Calif. Contact: STMA, P.O. Box 98056, Las Vegas, NV 89193-8056; (702) 739-8052.

3-5: Rocky Mountain Regional Turf Conference, Denver, Colo. Contact: Rocky Mountain Turf Assn., P.O. Box 903, Parker, CO 80134.

5: Marketing, Advertising & Business Management Short Course, Florida. Contact: Uday K. Yadav, (407) 323-2500.

5-7: Tree Care Industry Expo '91, Columbus, Ohio. Contact: Tom Clancy, (800) 733-2622.

5-7: Landscape Drafting and Design Workshop for Residential Properties, Athens, Ga. Contact: Bill Slack, 310 Hoke Smith Bldg., University of Georgia, Athens, GA 30602; (404) 542-2698.

8-11: Canadian Turfgrass Conference and Trade Show, Toronto, Ontario. Contact: Canadian Golf Superintendents Assn., (416) 602-8873.

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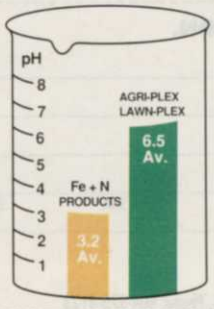

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INFO CENTER

Tree hazards... The International Society of Arboriculture has published a new book titled "A Photographic Guide to the Evaluation of Hazard Trees in Urban Areas," co-authored by Nelda Matheny and James Clark of Inc. The guide contains 156 photos. The book's cost is $30 for ISA members and $40 for nonmembers. It can be ordered prepaid from ISA, P.O. Box 908, Urbana, IL 61801 or fax Visa/MasterCard orders with card number and expiration date to: (217) 328-7483.

On certain pesticides... Thomson Publications has recently released its newly-revised "Agricultural Chemicals Book III" on fumigants, growth regulators, repellents and rodenticides. It lists and describes in detail the miscellaneous pesticides. The book is available for $16.50 plus tax. For ordering information, contact Thomson, P.O. Box 9335, Fresno, CA 93791; (209) 435-2163 or fax (209) 435-8319.

Training in Georgia..."Introduction to Pesticide Safety" and "Seasonal Color: Annual Bed Preparation and Installation" are two new videos from the University of Georgia Cooperative Extensive Service. The former is 20 minutes, the latter 13 minutes. Each video comes with an instruction manual, discussion questions and multiple-choice exam. Each video package costs $34.95, which includes shipping and handling. Make checks payable to DeKalb Extension Service and mail to: Video, DeKalb Extension Service, 101 Court Sq., Decatur, GA 30030-2523. (Special prices are available to members of the Professional Grounds Management Society and the Georgia Green Industry Association. Contact them for pricing.)

Pesticide glossary... For a free copy of a two-page "Non-Agricultural Pesticide Glossary," send a stamped, self-addressed envelope to: Reymont Associates, P.O. Box 114, New York, NY 10276-0114.

An organic fertilizer... "Cottonseed Meal: A Slow-Release Organic Fertilizer," a full-color eight-page booklet is available through the National Cottonseed Products Association. The booklet tells how cottonseed meal can be used on turf, in flowerbeds and on shrubs. Send your name and address along with 52 cents postage to: NCPA, P.O. Box 172267, Memphis, TN 38187 or phone (901) 682-0800.

On xeriscaping... The Clemson University Cooperative Extension Service is offering "Xeriscape Landscape Water Conservation in the Southeast," a 32-page publication that includes more than 30 illustrations, many in color. Copies of the publication, Extension Circular 672, are $4.50 each. They are available from local Clemson extension offices or by writing for more information to Poole Agricultural Center, Clemson, SC 29634-5609.

Tree, shrub insects... The revised second edition of "Insects That Feed on Trees and Shrubs," by Warren T. Johnson and Howard H. Lyon, contains 241 color plates and gives the essential IPM facts about more than 950 species of pests. To order, send $52.50 plus $3 postage and handling to: Cornell University Press, 124 Roberts Place, P.O. Box 250, Ithaca, NY 14851-0250. MasterCard, Visa and American Express Card orders are accepted. New York State residents should add 7% sales tax.

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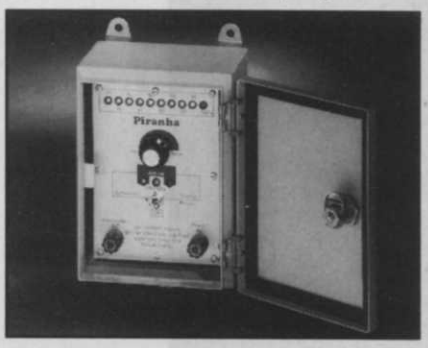
Ion generator purifies ponds

The Piranha ion generator from Bastech Industries releases copper and silver ions into water, destroying bacteria



and algae in ponds, spas, fountains and water displays.

The process, according to Bastech, does not affect water balance and is stable in sunlight. This water purification system improves chemical effectiveness, achieving an 80 percent savings in chemical expenses, Bastech contends.

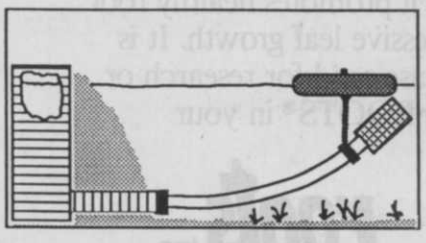
Circuits are fused for safety and easy maintenance. A variety of models for different water requirements are offered.

Circle No. 191 on Reader Inquiry Card

Flotation system keeps inlet clear

Greenscape Pump Services introduces its patented Float-N-Screen, which is designed to keep irrigation pump system inlet screens off the bottom of water sources. This prevents silt and other debris on the bottom from entering the system.

According to the company, the Float-N-Screen reduces pump wear due to silt, reduces control valve failure due to clogged screens, prevents sprinkler clog-



ging due to debris and prevents silt build-up on greens from covered intake screens.

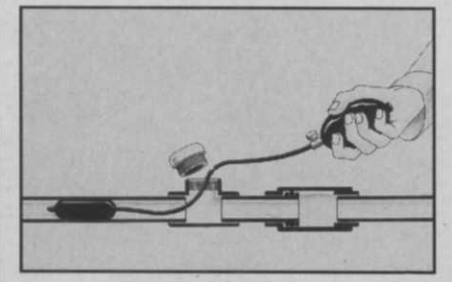
Float-N-Screens comes in all sizes to fit all types of intake systems and gpms.

Circle No. 192 on Reader Inquiry Card

Drip stopper simplifies irrigation pipe repairs

Moby Dike, from National Irrigation Specialists, employs a bladder which can be inflated in the pipe to be repaired, holding back residual water until the repair is complete.

With Moby Dike, landscape and irrigation contractors no longer need to stuff pipes with putties or other fillers. Bailing water out of the work excavation is also eliminated, as are re-works and call-backs



to correct water-fouled flue joints.

A small Moby Dike is available for pipes from 3/4 inch to 1-1/2 inches in diameter and a large one is for pipes 1 to 4 inches in diameter.

Circle No. 193 on Reader Inquiry Card

Limiter eliminates irrigation geysers

The Limiter, from Flood Stop of Mission Viejo, Calif., eliminates geysers

caused from broken irrigation heads, thus conserving water.

Once installed, the Limiter will convert the broken sprinkler head to a bubbler, limiting flooding, loss of pressure to the irrigation system, emergency repair and water loss.

The product is available for 1/2 and 3/4 inch riser systems with capacity ranging from five gallons per hour to six gallons per minute. It is easily installed with a screwdriver and features a unique knurl design which makes it easy to remove broken risers with a screwdriver.

Circle No. 194 on Reader Inquiry Card

Flagging prevents damage to sprinklers

Golf course irrigation sprinkler heads are safer from mowers, aerators and other damage, thanks to new "Heads Up" flagging from Blackburn Manufacturing.

The "Heads Up" system consists of a specially designed rubber device which attaches with strong 3M adhesive to the top of a sprinkler head. A wire-staff Blackburn marking flag is then inserted in the rubber mount, providing a high-visibility system for irrigation sprinkler heads.

The system, Blackburn claims, does not

interfere with the operation or water flow from the sprinkler head. Flags come in a variety of colors and sizes and can be custom-imprinted.

Circle No. 195 on Reader Inquiry Card

Control system offers on-site management

The second generation of OSMAC (on-site

management and control) is a result of a cooperative agreement between Toro Irrigation and Motorola.

The OSMAC is an easy-to-use, affordable, central-based irrigation control system for golf courses. The central control communicates to the satellites with a paging radio system, completely eliminating the cost and inconvenience of communications wire installation, Toro says. And as a retro-fit controller, the OSMAC is quick and easy to install, often causing no disruption of play.

The basic receiver unit is expandable from 8 to 48 stations, each individually addressed, plus other features. Its handheld radio unit can double as a two-way radio to communicate with the base unit or another portable.

Circle No. 196 on Reader Inquiry Card

Sprinklers feature adjustable arc system

Hunter Industries' I-10 and I-20 gear-driven sprinklers are now available with a

new adjustable arc feature. Both the I-10 shrub head and I-20 pop-up can be adjusted from 40 degrees to 360 degrees during installation or while in operation, Hunter says.

For full circle coverage, both are available as fixed 360-degree models.

Both are equipped with 12 interchangeable nozzles to vary the discharge rate from 0.5 to 14.4 gpm. This versatility allows the user to match high application rate sprinklers in a system, or to take advantage of modern low precipitation rates for water and energy savings.

Circle No. 197 on Reader Inquiry Card

Modular drain system has more capabilities

Zurn Industries has developed the "Flo-Thru Pre-Sloped Drainage System" with special design features.

The system offers lightweight assemblies, built-in 0.75 percent molded slope, modular continuity and a radiused smooth channel bottom. These features, Zurn says, simplify installation, produce a smooth and rapid flow, and promote self-cleaning.

This modular drainage system, Zurn notes, has more capabilities than other channel drainage systems.

Circle No. 198 on Reader Inquiry Card

Electronic locators are easily adjusted

A new line of advanced electronic locators for detecting buried pipe and cable, and tracking guided boring tools has been introduced by the Charles Machine Works.

Subsite Discovery Systems is a complete line of receivers and transmitters that allow users to customize locator settings and locating methods to their own

requirements.

New settings can be changed with the push of a button.

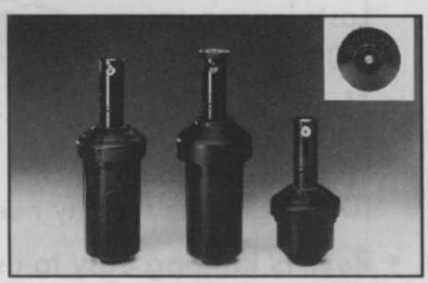
Five Subsite locating systems range from simple systems designed to locate plumbing blockages to powerful systems for tracking guided boring tools.

Circle No. 199 on Reader Inquiry Card

Adjustable bypass speeds installation

An adjustable bypass now is offered on all Rain Bird R-50 Series rotors. By making it simple to adjust water flow into the rotor, the adjustable bypass permits fine tuning and allows the rotor to be adjusted for high performance in low pressure applications. It also speeds installation.

Available in standard, shrub and commercial models, the R-50 rotor offers full and part circle capability in each unit and



a choice of a standard 23-degree or low-angle 11-degree trajectory.

In addition, the R-50 rotor provides easy arc adjustment, a patented multi-function wiper seal, color-coded "Quick-Change" matched precipitation rate nozzles and a unique Quick-Flush action, which cleans the pop-up stem.

Circle No. 200 on Reader Inquiry Card

continued on page 60

PRODUCT REVIEW

Trimmers, cutters get new engine line

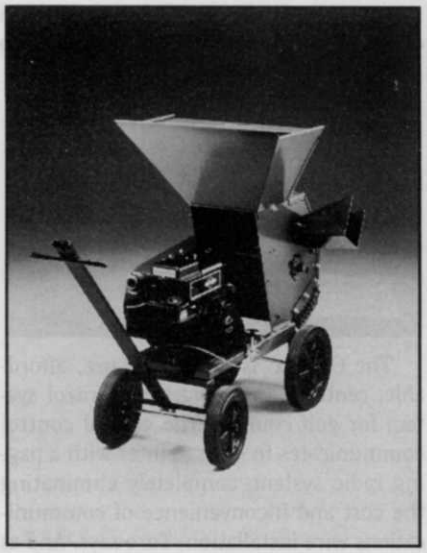
Maruyama Manufacturing has initiated production of its new engines as part of the complete new string trimmer/brush cutter product line.

The new engine on these units features commercial grade heavy duty bearings, chrome cylinders and Walbro injection carburetors. The engine series, Maruyama says, develops a high level of torque at a lower rpm, giving longer engine life and better cutting characteristics under load.

The injection carburetor makes the unit especially easy to start, and it starts at a very low rpm for safety, Maruyama notes.

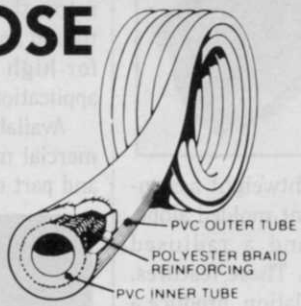
Circle No. 201 on Reader Inquiry Card

Chipper/mulcher is highly efficient machine



The 500H-5 chipper/mulcher from Roto-Hoe features 1-1/4 inches of chipping capacity, which quickly recycles vegetable stalks, tree prunings, leaves and other landscape waste into valuable mulch or compost. The powerful Briggs & Stratton 5 hp engine provides 1400 rpms of operating speed for the 21 heat-treated, free-

Green Garde® HIGH PRESSURE SPRAY HOSE



- **Braid reinforced.** 800 psi working; 3000 psi burst. Lasts longer, saves big in long run.
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- **Won't leave marks** on walks; hose color won't transfer.

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swinging hammers.
Circle No. 202 on Reader Inquiry Card

Soil additive acts to retain moisture

Desert Bloom, from Hydra-Soil Southeast of Alpharetta, Geo., is a liquid, which aids in raining moisture in soil up to twice as long as normal.

Because it is a liquid, Desert Bloom may be applied by spray or irrigation injection systems to crops, turf, gardens or orchards.

Hydra-Soil says that, unlike other water retention products, Desert Bloom is not crystalline, granular or polymer.

The company says the product requires only one application per year, and reduces leaching. Also, it lowers the need for water by half.

Desert Bloom is EPA approved and totally nontoxic, according to the company.

Hydra-Soil Southeast says Desert Bloom has been tested for 10 years. University and independent studies are ongoing.
Circle No. 203 on Reader Inquiry Card

Lake coloring easy with new product

Coloring lakes, ponds and golf course watere hazards is easy with Lake Colorant WSP from Becker-Underwood, Inc.

According to the company, the highly concentrated colorant, encased in water

soluble packaging, dissolves easily and within four minutes. Color is dipersed completely through the body of water.

Lake colorant WSP is not harmful to fish and wildlife. Each packet colors one acre foot of water.
Circle No. 204 on Reader Inquiry Card

Software program for all industry sectors

L-W Software has released the latest version of CLIP 3.4+. CLIP fits the needs of a broad range of businesses, including lawn care operators, chemical applicators, landscapers, pest control experts and other service companies.

CLIP brings the latest management technology to the lawn maintenance business and has become the industry standard, according to L-W Software.
Circle No. 205 on Reader Inquiry Card

THE WALKER TOUCH

The Perfect Touch Many operators are finding the mid-size Walker Mower is the perfect size for their jobs – a compact, maneuverable tractor for small areas, combined with open space productivity of a rider, saves time.

The "Midas" Touch Walker Mowers are moneymakers; one owner explained why he was buying a second Walker, "The first one made me money – I like to make money."

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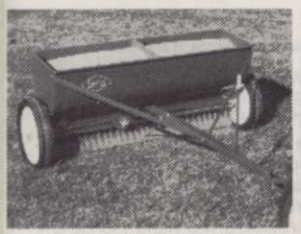

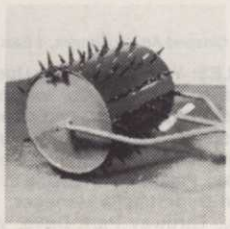

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(Required by 39 U.S.C. 3685)

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9. ***Does Not Apply***

10. ***Extent and Nature of Circulation***

	Average No. Copies Each Issue During Preceding 12 Months	Actual No. Copies Of Single Issue Published Nearest To Filing Date
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B. Paid and/or Requested Circulation		
1. Sales through dealers and carriers, street vendors and counter sales	None	None
2. Mail Subscriptions	47,486	40,396
C. Total Paid and/or Requested Circulation	47,486	40,396
D. Free Distribution by Mail, Carrier or Other Means, Samples, Complimentary, and Other Free Copies	3,601	3,032
E. Total Distribution	51,087	43,428
F. Copies not Distributed:		
1. Office use, left over, unaccounted, spoiled after printing	651	617
2. Returns from news agents	None	None
G. Total	51,738	44,045

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Signed: Joe Bilderbach, Vice President/Circulation

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